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STRAY STRAWS

FROM DR. C. C. MILLER.

OCTOBER 11, 12, 13.

A WRITER in *Bienen-Vater* quotes from GLEANINGS the account of bees changing worker eggs to drone eggs, and then slyly pokes fun at the idea.

PROPOLIS of a new kind appears in some of my hives this year. It sparkles to a slight extent like what the ladies call diamond dust. I wonder what it comes from.

THE RAKING MOTION of bees at the hive-front can hardly be a sign of swarming, as suggested by some one, for I saw it this year after all swarming was over, and didn't notice it before.

IN A NUMBER OF CASES I have found young queens wrong end to in their cells, but never a worker. Does this position always prove fatal to a queen, or has she the power to turn around in the cell?

CONTRARY to my expectations, and contrary, too, I think, to the reports of others, when my bees were kept a full week with the Langdon non-swarmers on, none of the worker brood suffered, so far as I could see.

"A RECORD OF 75 POUNDS of comb honey per colony, spring count, for eight consecutive years," is attributed to Hon. Geo. E. Hilton, in a biographical sketch in *A. B. J.* That makes some of us green with envy.

MORE AND MORE it begins to seem that, while the season was a grand one in some parts, in others it was one of the very worst. As yet I think no good reports come from west of the Mississippi; some reports that do come, say, "Not a section finished."

HENRY ALLEY says that young bees up to three days old will not molest a strange queen. If so, then instead of giving a valuable queen to hatching brood without any bees, it would be just as well to inclose this queenless brood three days before giving the queen.

D. C. LEACH reports an experiment in *A. B. J.* His bees were working on linden two miles away. At night he shut in one colony, opening them next morning when other colonies were fairly at work. In just 15 minutes the first bee returned, others being as long as 18 minutes.

DID YOU EVER NOTICE how suddenly bees lose interest in a robber the instant it is killed? One or more will be holding on to it for dear life; but the minute you kill it with the end of a chisel they lose all interest in it, and act as

if they didn't see it. But a strange queen will hold their attention long after it is dead.

"SOMNAMBULIST" talks delightfully in his sleep, as reported in the really progressive *Progressive*; and that usually shrewd guesser, Hasty, paid me the compliment of laying Somnambulist's work at my door; but you're away off this time, brother Hasty. Look closer at the ear-marks.

"DON'T START OUT to invent the best hive on earth," says J. W. Rouse, in *P. B. K.*, "until you have become a judge of what is best, by practical experience." Oh, dear! if that advice is followed, it will strangle at the birth ninety-nine out of every hundred of all the new "best hives" that are invented.

PASTURAGE around the home apiary, so far as I can judge from outside appearances, is as good as or better than at the Wilson apiary. But for years the Wilson has taken the lead, the bees storing there when they have stopped at home. It shows that I don't know how to select a location as well as the bees.

THE ENLARGED SCOPE of the Bee-keepers' Union makes it seem desirable that it should have a yearly meeting. If some plan were devised by which every member of the North American Society could be made a member of the Union, the way for a yearly meeting of the Union would seem easier.

"THE EIGHT-FRAME HIVE has been a detriment rather than a help toward getting large crops," says R. C. Aikin, in *P. B. K.* He argues that the extra frames in the large hives have only to be filled with honey once, making things ever after in better shape. I'm afraid there's a good deal in what he says, and it's been troubling me for years.

SWEET CLOVER can hardly make the black honey credited to it by some. This year my bees have had more sweet clover than ever before—enough, I should think, to make a perceptible impression, and my honey was never finer. I had some of that sooty honey one year, and have no idea from what it came, but I've had none of it this year.

"I DO NOT BELIEVE a swarm works with any great degree of vigor above that of the same colony when it does not swarm, even though prevented from swarming. There is an apparent greater energy, for two reasons. First, the swarm has no brood—nothing to do but build comb. The second reason is, they get a lot of honey in a short time."—R. C. Aikin, in *P. B. K.*

THE *Apiculturist* wisely reprints an exceedingly interesting article from father Langstroth, in which he shows by experiment, that, under favorable circumstances, a queen may hatch in

from 15 days 2 hours to 16½ days from the egg, and a worker from 19 days 2 hours to 22 days 3 hours. Queen and worker larvæ may have their cells capped over in at least 7 days 15 hours after the eggs were laid.

ALBERTI cut off a branch of a pine-tree which was covered with tree-lice and honey-dew, cleaned this branch very carefully, so that no honey-dew or tree-lice were any more on the twig, and placed it in his room. The next morning the twig was *again covered* with small drops of honey-dew—a stubborn fact that honey-dew does not always consist of the excrements of the tree-lice.—*H. Reepen*, in *A. B. J.*

IN THE DISCUSSION as to prevention of burr and brace combs, it seems to me that hardly the merited attention has been given to the matter of the space between one top-bar and its next neighbor. If a quarter of an inch is the space left by the bees between two vertical surfaces, and if that is the proper distance between top-bar and section, will some good brother please rise and say whether there is any reason why ½ inch is not the best distance between top-bars?

MORE ACCURATE OBSERVATIONS.

WHAT AND WHAT IS NOT SWARMING-FEVER;
HOW IT MAY BE DISTINGUISHED FROM ORDINARY SWARMING; SOME VALUABLE
DATA FROM E. E. HASTY.

There has been a little breeze, in which friends Doolittle and Alley participated, as to whether eight days or nine days after the prime swarm is the time to expect a second swarm. It strikes me that here is the place to put in an earnest plea for more accurate observations and real records. Most of us are trusting too much to general impressions and memory; and this sort of thing is not worthy of the high rank which apiculture is taking as a science as well as an art. Let us have the actual records of two or three apiaries where swarm-fever has prevailed, and also of two or three where the swarming is normal, and of as many more where swarming is scanty. Then we shall have something on the question to which we can, without blushing, invite the attention of scientific men. I can open the ball by contributing a record of the first sort mentioned. If the owners of large apiaries have all left off keeping records, will they not *next year* favor us with the actual dates of their second swarms?

Swarm-fever is a real something, which is sometimes present and sometimes not present at swarming-time. Many use the term as a mere expression for a troublesome amount of swarming when every thing is perfectly normal. A dozen colonies may send out their prime swarms the same forenoon, and make their keeper sweat considerably, when there is not a bit of swarm-fever in the yard. One of the plainest manifestations of swarm-fever is in causing the second swarms to come out *later than schedule time*. A novice would expect the opposite result—earlier time if the bees felt in a hurry. The explanation is, that the mania causes the first swarms to come out with less preparation than usual, or none at all. Then, as there must be a queen of some sort before the seconds can get away in condition to set up in housekeeping, there must be a longer period of waiting for the young queens to emerge.

I have for the present very swarmy year of 1893 the full records of 22 second swarms. Of course, if either the first or second swarm gets out without my seeing it, or without my seeing

where it came from, the record is likely to be a blank so far as that hive is concerned. Also the cases of superseding queens at swarming-time put out the colonies in which they occur. These 22 second swarms were timed as follows:

At 8 days.....	5	At 12 days.....	2
At 9 days.....	2	At 13 days.....	2
At 10 days.....	5	At 14 days.....	1
At 11 days.....	4	At 17 days.....	1

The 17-day colony gave a third swarm at 19 days from the prime. On the previous day (the 18th) I examined the hive and found things as they should be during after-swarming. So it was not a case of the old queen returning and coming out with another swarm later. Once or twice before, I have had the last swarm 17 days from the prime. It seems to me that Mr. Alley's assertion, in his new serial, that, if no swarm comes out by the twelfth day, none need be expected, is misleading and bad, except as to locations where swarm-fever never prevails. Mr. Doolittle remarks that cutting queen-cells on the sixth day will result in swarms on the 16th, 17th, and 18th; but in the above case no cells were cut; and I should fear to trust Mr. D.'s sure plan (cutting on the 8th day), lest a considerable percentage should swarm anyhow, and leave the colonies queenless.

Another manifestation of swarm-fever is the great number of swarms that go back to their hives again. June 14th I had 8 swarms in succession come out and go back, and not a clipped queen in the yard. Fourteen of the 22 swarms in the table above went back; so one day should be added if the time when the second swarm is ready to be hived is wanted. A fifteenth one came out three times the same day, clustering the third time. A novice would suppose going back into the hive indicates attachment to it, and reluctance to go away. The fact seems to be, that a few hot-heads get so impatient to be away that they start a rush prematurely, before the queen is ready, or, at least, before all things are ready; and the result is a fiasco. Three of the five eight-day swarms clustered the first time. The fourteen-day swarm went back and came out the next day.

As to authorities on the question, Quinby says 8 or 9 days; Cook, 7 or 8 plus 2 or 3; *i. e.*, 9 to 11 days; King, 8 or 9 plus 1; *i. e.*, 9 or 10 days. Langstroth says usually 9, but on rare occasions as few as 3 or as many as 17. My A B C seems not to go on record on the point. The table of my this year's experience, as you see, makes the average time between 10 and 11 days. There being more than twice as many on the eighth day as on the ninth may be a slight indication that eight days is the true normal.

It is very well to have experiment stations and paid experimenters; but there is much work yet to be done which almost any intelligent and enthusiastic young student could do. For instance, bees have twenty different styles of swarming. Who will take eyes in his head, and watch and note-book in his hand, and describe each style accurately, as a scientific work would require? Occasionally a swarm comes out riding upon each other's shoulders, and hurls itself in ragged heaps upon the ground in front of the hive, sizzling and fuming. Perchance, after a long time spent thus, they get back on the front of the hive, and gradually cool down—like an overheated cook-stove slowly simmering itself into quiet. Occasionally a swarm comes out rather slowly, and half the bees quickly alight, scattered everywhere, on the leaves of vegetation, on surrounding hives, and on the ground, as if there were going to be a ball-game, and they

wanted to get into position to see. Thus they alternately fly and rest, keeping some show in the air all the time, until a regular cluster may develop somewhere later on. Occasionally each bee seems to come out almost as if shot from a pop-gun, and goes directly high up in the air; and, before the rear end of the swarm is out, the advance guard is gone, nobody knows where; and part of the company have to return for want of any thing else to do with themselves. Thus the swarm is like one of those great swift comets that almost touch the sun; a piece of the tail gets pulled off in passing. So many reliable apiarists find the fountain pump of some use in controlling swarms, while the same is absurdly useless with me, that I judge that the dense, just-like-a-picture style of swarming is common in some yards. Otherwise I should be tempted to say that bees never swarm that way. Who will collect all these facts, and get them salted down somewhere where they can be referred to?

Richards, O., August 5.

E. E. HASTY.

[It seems to us, friend H., that you have pretty well salted down the facts. However, we shall be glad of more data from other sources, and from yourself whenever you are prepared to furnish them. To tell the truth, we had rather accepted the eight-day rule as being quite reliable; and even yet we are inclined to regard it as more reliable than any other day for us to cut out cells. If we were to cut them out before or after, we are not much better off. In the one case more cells may be started from larvæ not yet too old; and in the other case we may have swarms when the eighth day arrives. Can't you or somebody else straighten out these facts so that we may have a rule that will work a little better? Your last paragraph describes more minutely and more accurately all the phases of swarming with which we are acquainted than any thing we have before read.

Referring to the fountain pump, we may say that we are among the "reliable apiarists" who have found its use a decided advantage. Indeed, there have been times when we know we should have lost swarms without it; but as it was, we could drive them like a drove of sheep where we wanted them, and almost *make* them cluster on the identical spot desired; but, if we remember correctly, you have at your apiary a large amount of shrubbery—low bushes, high bushes, lots of posies, big and little, and trees large and small. There are so many convenient places on which a swarm may cluster that a fountain pump would be "absurdly useless." When A. I. R. planned the location for our present apiary here at the Home of the Honey-bees, he decided that there should not be a single tree inside of the evergreen inclosure. This is all very nice at swarming-time, but it is not so very pleasant during the very hot days of summer, for the apiarist. The big evergreens cut off the fine delicate breezes that are so pleasant, and leave the sun to pour down inside of the small square, as it were.]

THAT PADDLE, ETC.

DOOLITTLE ARGUES FOR ONE OF SOLID WOOD.

In Dr. Miller's "Stray Straws" for August 1st I find this: "Doolittle makes a paddle of peculiar construction with which to kill bees that persist in chasing and scolding. A very good substitute for this is a piece of heavy wire cloth. It will fetch the bee every whack, while the stick will miss nine times out of ten."

Now, I should like to ask Dr. M. if he has tried a stick and a piece of wire cloth, both of equal dimensions, and found out that the wire cloth was superior to the wooden piece. Soon after I gave the item of how I killed cross bees that persisted in following me about, and by so doing kept things so peaceable that visitors could walk about the bee-yard without danger of being stung, some one wrote me privately, or through one of the bee-papers, I do not remember which, that, if I would make a skeleton paddle, and cover each side with wire cloth, it would be superior to the wooden paddle, inasmuch as that the air would pass through the wire cloth so that the bee would be hit every time, while the wooden paddle tended to blow the bee out of the way of the stroke, thus making it difficult to hit the bee the first time. Thinking that this writer had struck the right thing, as it looked so reasonable, I made two or three of these wire-cloth and wood paddles, and, upon a thorough trial, I found that I could hit a bee just as often with the wooden one as with the other. To be sure, I could hear the air hiss, as the force of the blow drove it through the wire cloth; but when it came to hitting the bee, I could do so every time with either, unless it happened to dart out of the line of the blow just before the paddle got to it. But there was one thing I found that was in favor of the all-wood paddle that the wire cloth did not possess; and that was, that, every time I hit a bee with it, the bee was a dead bee; while with the wire cloth, fully one-half were only maimed, to die a lingering death, or to come back at me with redoubled fury. Now, of all the things which hurt me the most, it is to see any thing die by torture; and a bee maimed and hurt takes me many steps out of my road to finish killing it, while a dead one is thought no more of. In striking a bee with the wire cloth, if the bee's head or thorax goes between the wires or in the meshes, it is not killed; while with the wooden one the head and thorax are paralyzed at once. At least, this is my experience. Keeping down cross bees in this way saves lots of stings and annoyance, and I think it pays as well as any of the little things in the apiary.

DEAD BEES AT THE ENTRANCE WHEN INTRODUCING.

Another "Straw" which attracted my attention in the same number was this: "Dead bees to a considerable number are often seen in front of a hive to which a queen has been introduced, their curled-up position showing that they have been stung to death. I think that this is an indication that the queen will be received all right. The bees which make an attempt on the queen's life are stung to death."

To this I take exceptions; and were it not that Dr. M. says "I think," we should "lock horns" over the matter in a way that might not seem so funny to those fellows who are so anxious to say "seek" when it comes to Miller and Doolittle—not but that I have had queens accepted all right where a fight has occurred in a hive where a strange queen was being introduced, till a handful or more of bees were killed; but where I have had one accepted all right, I have had fully two queens either killed or hugged till they were good for but little, or worse than nothing, because they had been tortured till they could hold the place of a queen, but not fill it. Many a queen have I known, under such circumstances, to be kept in a ball of bees so long that they were shiny all over, the fine hairs being all scraped or gnawed off, and many times the wings were torn in shreds, with one or more of their legs stiffened, till they were useless. After keeping them in

this way for two or three days they would be allowed to have their liberty, and be fed and accepted as the mother of the colony, only to be a poor substitute for the same. This will I say: I never knew a queen to be so used unless there were from 100 to a pint of dead bees brought out at the entrance; while, when the queen is killed outright, there may be dead bees at the entrance and there may not. After years of careful watching and experimenting I feel like saying that any plan of introduction which allows the bees to have a quarrel over the queen while she is loose among them is faulty in the extreme, for not one queen in ten comes out of such a fight as good as she was before. This is why I recommend using a large wire-cloth cage to fasten the queen under on the combs; for with such a cage, should a fight result, it always does so before the queen is out among the bees, consequently she is unharmed. When bees, fairly hissing with rage, crowd tightly around a cage having a queen under it (in which case friend Root has so often told us it is not safe to let the queen out), they would ball the queen in the same way were she out of the cage; and if it is not safe to let her out when the cage is thus balled, it is certainly unsafe to have her loose among the bees at such times. After the bees cease to hover around the cage, the fight is over, and then the queen can safely go out among the bees. I have known as many as a pint of bees to be killed when a cage was thus covered, yet the queen would not be harmed at all; but let half that number of bees be killed when the queen is among the fighting bees, and she will be materially injured, if not spoiled entirely—at least, this is my experience after scores of experiments along this line.

Borodino, N. Y.

G. M. DOOLITTLE.

RAMBLE NO. 91.

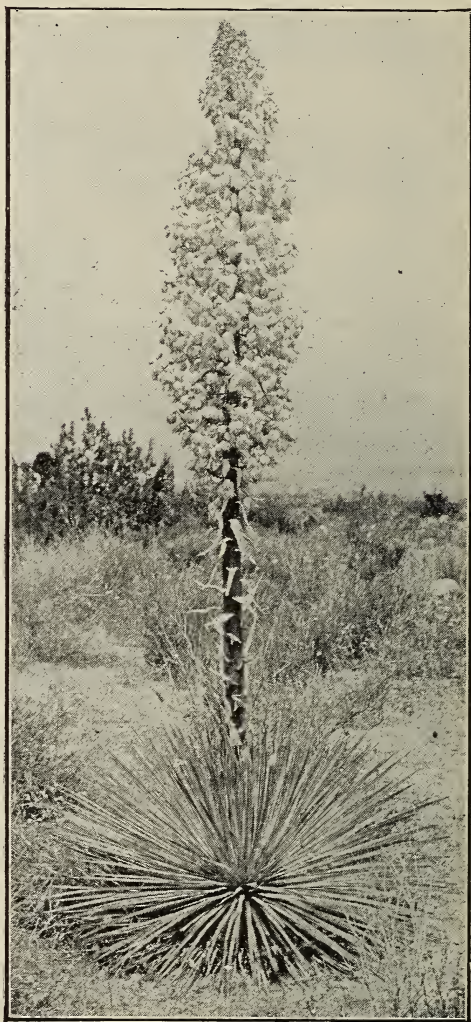
MR. BRODBECK'S APIARY.

The location of Mr. Brodbeck's apiary, near the outlet of Cold Water Canyon, is especially adapted to the comfort of the apiarist. The large house is not only surrounded by a broad veranda, but the comfort is further enhanced by a wealth of shade. The tall sycamore and the blue-gum interlock their branches, while a tangle of small trees and blooming shrubs grows in profusion and lends a charm. The water from the dark recesses of the canyon above has to leap many rocks and boulders; and its subdued roar, like a distant waterfall, adds another charm to the place. An ample ditch conducts some of this water to the very edge of the veranda; and such cool and refreshing soft water as to give health with every draught.

A person living where rains are frequent, and springs of water abundant, will never appreciate the wonderful value of water until he has lived in a dry country; and the appreciation will be strengthened if he has lived several months where the precious fluid is a mile away; and where the only shade is that of a buck-thorn bush, scarcely large enough for a jack-rabbit to waggle his ears under, water and shade will be appreciated as never before. Owing to this fact, the canyon is a popular resort and picnic-ground for the inhabitants of the plains below.

Mr. Brodbeck is now the happy owner of 83 good strong colonies of bees, and can no longer be called the little bee-man with one swarm. He is one of us, sure, in point of numbers. The bees were moved to this location too late to get the early honey-flow, and, as a consequence,

his yield is not so great as that obtained by some of his neighbors; but, nevertheless, it makes a good showing. I found that Mr. B. was a very careful and painstaking workman among the bees and fixtures, and every thing about the apiary was kept in first-class order. The hives are all new L. hives; and, instead of piling unsightly stones on the covers to hold them on, the cleat on the ends of the cover shuts over the hive far enough for its lower



YUCCA-PLANT, OR SPANISH BAYONET.

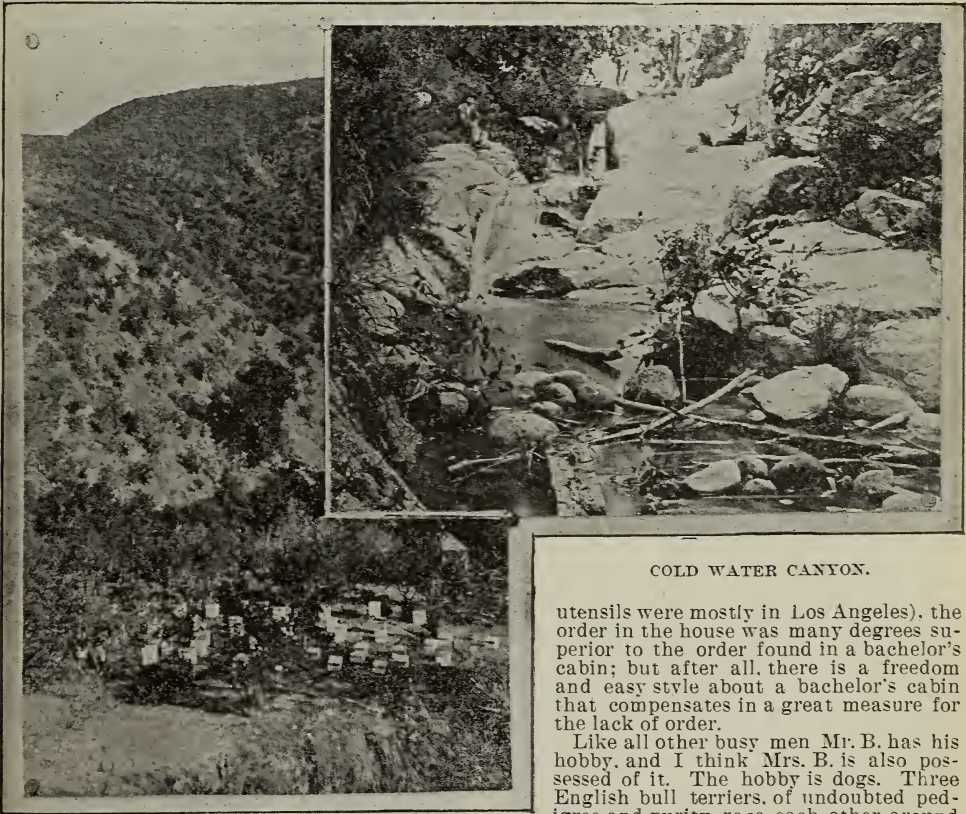
edge to come even with the lower edge of the cleat on the hive. A button on the cover-cleat secures the cover firmly to the hive. The fine strain of Italians found in the hives are bred from an imported queen which came through the Home of the Honey-bees, and the nectar is extracted with a Cowan extractor from the same place. The honey-house is a temporary concern, like many others in California, and is covered with cotton cloth, and makes a very pretty appearance among the peach and apricot trees among which the hives are located.

These temporary honey-houses are usually covered with burlaps, which are not very beautiful to look upon.

The honey-pasturage extends into the various little canyons, and is extensive, with white sage predominating. The young orange-groves on the plains below will soon add another bloom in abundance for the busy workers. The dried stems of the yucca, or Spanish bayonet, are seen in every direction on the mountain-sides. The blossoms of this unique plant put forth early in the season; are borne in profusion on great spikes, and are of short duration. The bees, however, work upon them for both pollen and honey; and, though it may not amount to much as a honey-plant, it is interesting to bee-keepers as the producer of the yucca brush for brushing bees from combs. The leaves at the

intricate whys and wherefores are patiently studied. Among his improvements, he has constructed a new smoker, upon which he has secured a patent. The main features embodied in the smoker are an air-space all around the fire-barrel, and a peculiar and efficient arrangement of the blast-tube. Other improvements are to be made; and when the proper time comes the smoker will be put upon the market to compete with the other members of the smoker family.

Although Mr. B. is one of us so far as the bee keeping pursuit is concerned, he is not one of us in the bachelor line. A better half presides over his residence, his cook-stove, and his wardrobe, and keeps things in order; and, although Mrs. B. remarked that she felt as though they were camping (for their household



COLD WATER CANYON.

utensils were mostly in Los Angeles). the order in the house was many degrees superior to the order found in a bachelor's cabin; but after all, there is a freedom and easy style about a bachelor's cabin that compensates in a great measure for the lack of order.

Like all other busy men Mr. B. has his hobby, and I think Mrs. B. is also possessed of it. The hobby is dogs. Three English bull terriers, of undoubted pedigree and purity, race each other around the ranch, and make things lively; and

as three dogs require too much whistling to call them, and as Mrs. B. has the usual feminine weakness in the whistle line, Mr. B. has an instrument with a half-whistle and half-bugle tone that makes the welkin ring when blown upon; and every time its notes resound through the canyon the dogs really climb over each other to get to their master or mistress.

The house occupied by our friends was erected by a Dr. Smith; and, when not acting in his medical profession, he practiced spiritualism. He had a son, "Dave" by name, and report says that the son was ill treated to such an extent that he died of starvation; and even after he had passed to the spirit-land, Dave couldn't get over his feeling of resentment toward his parent, and he came back and

BRODBECK'S APIARY.

base are long and lanceolate, and provided with a point as sharp as a needle; hence the term "Spanish bayonet." The brush is obtained from the base of the leaf and from the dead leaves that are on the stalk. There are several species of this yucca. On the desert they grow to quite sizable trees. I obtained a photo of a fine specimen of this plant in full bloom, and present it herewith to your readers.

The other honey-producing plants on this range are too numerous to mention, and are of the same class as those further down in the valley.

In his management of an apiary, Mr. B. has an eye constantly for improvements; and the

walked the earth on dark nights, and haunted the old doctor until he died and was laid away to rest on the hill above the house. Rumor went even further, and said that Dave liked the haunting business so well that he continued it until this day; and the old house has had the finger of scorn pointed at it by the passersby, and it is called the haunted house. Before I was informed of the fact, I saw a written scrawl on the side of the house, in these words:

"As you are now, so I have been;

As I am now, so you shall be.

Beware! Spirit of Dave Smith."

I was considering what that meant, when Mr. B. informed me that the house was haunted, and that I should have to sleep in the haunted chamber. I immediately wished myself back in my lonely cabin, where no spirits keep nightly vigils; but I thought that, if Mr. and Mrs. B. and the dogs could stand a haunted house I could, and I tried to be outwardly calm when I retired; but there was a terrible feeling about the roots of my hair. I have read a great many ghost-stories in my day; and just as soon as I had blown out the light and retired, I began to think about the ghostliest ghost-stories I could remember; and I almost imagined cold clammy hands grasping my feet, and I involuntarily drew my feet further up in bed; grinning skeletons and rattling bones were evidently lurking behind the veil of darkness, and I was almost in an agony of terror, when—hark! what is that? I removed the sheet from over my head, and listened. There were several boxes in the room, and in one of them there was a loud rap, and in a moment it was repeated. I was somewhat relieved to think that Dave wanted to talk with me by rapping instead of a ghostly presence, and so I commenced the old way of repeating the alphabet, for him to spell out his message; from a to g, then a rap; a to o, and another rap; a to s, another; a to h, another—*gosh!* and I couldn't get another word. I repeated the alphabet fore and aft. Then I fell to considering what Dave wanted to use that slang word for, just as though he had stepped on a tack or had been stung by a bee. I considered it so thoroughly that I fell asleep, and was disturbed only by now and then a ghostly dream until Mr. B. blew his bugle for his dogs, in the morning. I said not a word to Mr. B. about my diversions in the haunted chamber; but a few days after I confided Dave's only expression to a friend, when he burst into laughing, and said, "Why! don't you see Dave appeared in the spirit? and as soon as he understood that the Rambler was going to interview him he hastily said 'gosh' and departed." Then my friend laughed again. "No," said he, "Dave will never appear again in Cold Water Canyon. No more will that house be haunted."

I did not deem fit to join in my friend's hilarity, and soon changed the subject of conversation. I am, however, fully persuaded that, if I had allowed myself to think of ghosts and ghost stories, I should have seen one before morning; and a couplet on witches, often repeated by my grandfather, came to mind:

Where they do believe, there witches are;

Where they do not believe, there is none there.

This holds true in relation to modern ghosts and haunted houses.

Mr. Brodbeck again saw me safely to the train, and for the first outing after a very busy season it was duly enjoyed by the

RAMBLER.

THOSE OLD BEE-BOOKS.

ANOTHER PEEP AT THE "GOOD OLD TIMES."

In 1766, Mr. John Mills, a member of the Royal Society of England, published a book entitled "An Essay on the Management of Bees." It was printed in Paternoster Row, London. Paternoster Row is a comparatively small street running nearly east and west parallel with the north side of St. Paul's Churchyard—the latter taking its name from the immense cathedral there, named after St. Paul. It is the largest Protestant church in the world, and, as I have before suggested, it is a great literary as well as religious center. It forms, in this respect, a complete contrast to St. Peter's, in Rome, whose surroundings are familiar to all who read the concurrent testimony of those who visit Rome. The erection of such mammoth church edifices is always an indication of a low state of spirituality bordering on heathenism; and although we may be glad that there are so many of them standing in Europe, let us hope that this age is satisfied to build more and cheaper churches.

Mr. Mills wrote this little book of 157 pages at the request of the Society for the Encouragement of Arts, Manufactures, and Commerce, in order to show bee-keepers a better way of managing their bees than to kill them with brimstone. Although Huber was then 16 years old, of course his investigations were not yet made, his "Observations" first appearing about 1796; but I believe it was about this time that he had his first premonitory symptoms of what afterward proved to be the worst of misfortunes—blindness. The inducement offered by said society was as follows:

The society will pay a sum, not exceeding two hundred pounds, for collecting wax and preserving the lives of the bees, in the following proportion: To every person who shall collect from stocks of bees, his own property, within the year 1767, ten pounds of clear merchantable wax, without destroying the bees, leaving a sufficient quantity of honey for their sustenance, five pounds.

The apparatus used was exhibited in the Strand; "and," the writer adds, "at Mr. Thorley's, opposite the Mansion House." This Mr. Thorley was the man whose book I noticed in the previous issue, and this reference shows the esteem in which he was held in London.

In regard to the location of an apiary, he quotes from Columella as follows:

The apiary should face the south, in a place neither too hot nor too much exposed to the cold. It should be in a valley, in order that the loaded bees may with the greater ease descend to their homes. It should be near the dwelling-house, on account of the convenience in watching them, but so situated as not to be exposed to noisome smells, nor to the din of men or cattle. It should be surrounded by a wall, which, however, should not exceed three feet high. If possible a running stream should be near them; or, if that can not be, then water should be brought near them in troughs, with pebbles or little stones in the water for the bees to rest on while they drink; or the water should be confined within gently declining banks, in order that the bees may have safe access to it—they not being able to produce either comb, honey, or food for their larvæ, without water.

He also recommends about such an apiary as Ernest says Mr. Hasty has, in respect to trees and bushes. (See Mr. Hasty's letter in this number.) That description of an apiary is poetical from beginning to end; and yet from a practical standpoint what could be better?

Among the sources of honey, he advises (following Columella) thyme, oak, pine, cedar, and all fruit-trees. He is enthusiastic over broom as a honey-plant. I am not sure that he means broom-corn, and yet I know from my experience in cutting it that parts of it are at times very

We are well pleased with GLEANINGS, and feel that we could not afford to do without it.

Hiawatha, Kan., July 15.

M. A. BUTTS.

sweet. Yes, right here he speaks of two kinds of broom—the common and the Spanish. Quoting from Mr. Bradley, whom I mentioned before as a celebrated gardener who lived a century before Mr. Mills did, “An acre of Spanish broom will afford honey and wax enough for ten good stocks of bees.” He speaks of flowers as “making wax,” but perhaps he means in the sense that clover makes butter.

Concerning the removal of bees to new locations to get the honey, Mr. Mills says, on the authority of Pliny, the celebrated Roman writer who lost his life in the pursuit of science, at the time Mount Vesuvius covered the cities of Herculaneum and Pompeii, Aug. 24, A.D. 79:

As soon as the spring food for bees has failed in the valleys near our towns, the hives of bees are put into boats, and carried up against the stream of the river, in the night, in search of better pasture. The bees go out in the morning, in quest of provisions, and return regularly to their hives in the boats, with the stores they have collected. This method is continued till the sinking of the boats to a certain depth in the water shows that the hives are sufficiently full; and they are then carried back to their former homes, where the honey is taken out.

In speaking of Egypt the same thing is repeated in substance. Those who have GLEANINGS for 1889 will find, on page 83, another account which I translated from a German journal; also a good picture. The original of this German account is here found in Mr. Mills' book, so I find that I did considerable of this work over four years ago. He speaks in detail of how bees in France were prepared for moving. He considers the whole plan as very advantageous under some circumstances. There is no need of telling here how the Greeks and Romans, even before our era, took honey and yet saved the bees; but here is a passage relative to the famous honey of Mount Hymettus, from the travels of a Mr. Wheeler, in Greece:

Mount Hymettus is celebrated for the best honey in all Greece. We ate of it very freely, finding it to be very good, and were not at all incommoded with any gripings after it. This mountain was not less famous in times past for bees and admirable honey, the ancients believing that bees were first bred here, and that all other bees were but colonies from this mountain; which, if so, we assured ourselves that it must be from this part of the mountain that the colonies were sent—both because the honey here made is the best, and that here they never destroy the bees. It is of a good consistence, of a fair gold color, and the quantity sweetens more water than the like quantity of any other doth. The natives wondered at my comrade, in that he preferred the white honey of France, telling him that white honey is raw, and not rightly concocted either by nature or the bees.

Mr. Mills says that, where aromatic flowers abound, much honey can be gathered, as sheep will not eat such. He quotes from one writer who refers to the prodigious number of bees in Spain as being entirely attributable to the fact that that country abounds in aromatic flowers, which sheep will not touch. His author says, “I am almost ashamed to give, under my hand, that I knew a parish priest [in Spain] who had 5000 hives.” Good! I've long wanted something that would take the starch out of those California folks. But Spain to-day shows no such resources in honey as that would seem to indicate. But it may be well to remark here, that Spain has probably more natural resources than any other portion of the globe of its size, even if it is at present a little run down at the heel.

This book is, as a whole, very interesting, and shows great progress in England between 1744 and 1766. The author says that the anatomy of a queen shows that she lays many thousand eggs, and that these are impregnated by the drones; her ovary may contain 5000 eggs at

once, and she may produce 12,000 bees in two months. Dissection shows the sex of the drone, and observations “have assured us that they couple with the queen.” This is one of the few books I wish were longer. W. P. R.

Medina, Aug. 24.

GONE BACK TO THE DOOLITTLE CELL-CUP.

DO DARK BEES REAR DARK QUEENS? A BRIGHT BREEZY LETTER FROM S. F. TREGO.

I see, on p. 600, that Mr. W. J. Ellison believes that dark bees rear dark queens, no matter what kind of brood is used for queen-rearing. Now, I can not believe it. I have been very short of queens this season, consequently my big cell-building colonies had black queens; but over half of my young queens are solid yellow, and the rest come very near it. I sent you to-day the darkest queen I have had hatch this year. She is a virgin, hatched Aug. 5, and is also rather small. If she is of any use to you, all right; and if not, kill her.

Since writing about my method of getting cells, I have gone back to the Doolittle method (or nearly so). You see, I am a changeable sort of fellow, and do not believe in sticking to my pet hobbies when there is something better.

In reading the article on p. 528, Mr. Jas. S. Klack, a queen-breeder of Urban, Pa., wrote to me and asked me to try again. He gave careful directions how to do it just right, but there was none of it new to me. I concluded to try again, so I got a lot of cups that had been in the hives some time, and were trimmed down just as the bees wanted them.

I have forgotten how many there were, but I think it was about 70. I fixed them carefully, and put them into a big colony that had been made queenless and broodless a few days before, and they accepted about 75 or 80 per cent of them. Next day I distributed them among my cell-builders, and they accepted and finished most of them. Since that I have kept those bees at work on the cell cups, and they never destroy over a quarter of them, and sometimes accept nearly all. In the last lot, 23 were accepted out of 25. I leave them in this hive only 30 to 40 hours, as they can not care for so many properly. I have a batch in their hives now, and shall stop right here and go and see how many are accepted.

Later.—Well, who can beat this? They have accepted 60 out of 62! I think a good deal depends on the colony. Some will build lots of cells, and others are no good at all. I intended to buy the queen of that colony back, even if she cost me \$5.00 (she was a \$1.50 queen); but before I got around to it, I got a letter stating she was lost in introducing.

Mrs. Atchley wrote me about Willie's cell-cups some time ago; but I have not tried it yet.

By the way, did you ever see rivals in any business who are as friendly as queen-breeders? Last week I got five cards and two letters from as many queen-breeders, and all began “Friend Trego,” except one, and that began “Dear Friend.”

TREGO'S EXPERIENCE WITH THE “WHEEL.”

I see A. I. has almost gone wild on the “wheel.” Well, I know from experience that the “wheel” is a great promoter of health. A few days ago I “wheeled” about five barrels of water and put it on 14 hills of cucumbers, and you would have to look a good while to find any thing healthier than they are now, right in this dry hot weather; but I did not use a “Safety.” It was an ordinary railroad wheelbarrow; and the ease with which I could carry 15 gallons of water would surprise you.

Put me in "Blasted Hopes," so far as honey is concerned. There was a light flow of black honey-dew all through June, and then for two weeks in July basswood did extra well; but there are not many trees here, so the bees will have only about enough to carry them to the fall flow, which we consider a "dead-sure thing" here. White clover was an entire failure. Swedona, Ill. S. F. TREGG.

[When friend Ellison and one or two others suggested that dark bees rear dark queens, we doubted it very much. We never saw any thing in our queen-rearing operations that led us to believe that such could be the case. Many and many a time have we reared beautiful yellow queens from dark hybrids or black bees. The queen referred to was light-colored, and we have introduced her.]

We are glad you are having success with the Doolittle cell-cups; and it shows that one is progressive, to be just changeable enough to throw aside old pet hobbies when there is something better. You know we have recently been accused of "flopping" from one thing to another; but we believe that, whenever it is to the interest of the fraternity at large to do so, we should do it.]

QUEENS FIGHTING.

SIMMINS' METHOD NOT A SUCCESS, ETC.

Mr. Root:—I read an inquiry in *Stray Straws*, "Who has ever seen laying queens show fight? and, having seen them fight, will they relate how it came about?"

Seven or eight years ago, in replacing some black queens with Italians, the idea sprang up that two queens might be mailed in one cage without a partition, if they would not fight. To test the matter, two were placed on a table, with a goblet inverted over them. They ran about trying to get out, not appearing to notice one another's presence for three or four minutes; but finally, about the time I commenced to think they would not fight, they clinched, hugged, and grappled with one another; parted, and came together again. They scratched so it could be easily heard, showing their sting, but neither one used it. The queens were then liberated, I believing they would wear one another out, even if they were dehorned or destinged; also, having more assurance that what our bee-books tell us is tried before putting them before the public.

Having introduced queens successfully by the Simmins fasting method, I wish to say that it was not satisfactory, though a success. Queens were removed from three colonies, and queens given them about one day later. They were introduced at dusk, after having had no food for about 40 minutes. They ran down at the top of the frames (young, vigorous laying queens), not disturbed for three days, when, on examination, queen-cells were plentiful in all. "Just what I expected," thought I; "so much for expecting they would be received." So other queens were placed upon the comb, caged in a Peet cage, and kept there for about two days, when they were examined, with the intention of releasing the caged queens; but in doing so the former queen was seen near the cage. She looked like a virgin queen, and no eggs nor larvae were found, but plenty of capped queen-cells. The two other colonies were found also, with their queens first given, and they looked as though bees did not regard them as queens at all—no eggs, etc.—just like those first described. The caged queens were then removed from all colonies, and queen-cells destroyed. After a few days the queens began laying. If

my memory is correct it was about ten days after they were introduced before they began laying, hence I never tried that method again.

Wishing to ascertain, if possible, why virgin queens over four or five days old are generally lost, one was placed in a wire cage with one end open. She was taken to a queenless nucleus, and the open end was placed over two worker-bees that were sucking honey from the comb. The sprightly virgin queen, without a moment's warning, pounced upon one of the workers and stung it quicker than it can be told. The worker acted as though stung by a worker, and soon died. So in introducing virgins the best time is when they are less than 24 hours old, as they are then looking out for themselves; and I believe the queen is often the cause of bees balling and killing her, especially when she is laying only a few eggs, as none is more easily introduced than one laying vigorously, which can be given to nearly any colony, without fear of loss. J. N. COLWICK.

Norse, Texas, July 3, 1893.

VERMONT BEE-KEEPERS' ASSOCIATION.

ITS THIRD ANNUAL SPRING REUNION.

In the early days of the Vermont Bee-keepers' Association two meetings were held—one in the late fall or early winter, the other in the spring. As the association expanded from a local county organization to the dignified State organization of to-day, the semi-annual gatherings were merged into an annual.

Three years ago, V. V. Blackmer, of Orwell, then president of the association, conceived the idea of partially renewing the semi-annual feature in a modified form, and this was done by an informal gathering at his home late in May. Those who attended this reunion were anxious for the next spring to come, and were again royally entertained by President Blackmer.

One of the pledges required of our president, W. G. Larrabee, at the time of his election last winter, was "to have a reunion in the spring." Nothing daunted by the undertaking, he planned for and successfully carried out his part. Those who were so fortunate as to be present at this reunion will, I am sure, all unite in a hearty vote of thanks to President Larrabee and his parents for the day's entertainment had on the 19th of May, 1893; and now it is with great pleasure that I am permitted to introduce to the readers of *GLEANINGS* some of the members of the Vermont Bee-keepers' Association, as they sat and stood in front of the home apiary of W. G. Larrabee, at Larrabee's Point.

The first gentleman at the left of the picture is R. H. Holmes, of Shoreham, one of the oldest members of the association, as a member, and chiefly noted at home and in market for the excellence of his honey. The gentleman next in order is H. H. Burge, of Shoreham, a new member, but one who has made bee-keeping profitable. Then comes Miss Marcia A. Douglas, who believes that a lady is not entirely "sweet," regardless of the quantity of bees and honey, except she wears a becoming bonnet or hat. The tall lady back of Miss D. is Mrs. V. N. Forbes; at her left we recognize the pleasant features of Mrs. Larrabee, mother of John H. and W. G., while in front is Mrs. Blackmer, and at her left sits Miss Larrabee, apparently watching the kitten in Mrs. Steadman's lap. Between the two young ladies we find Mrs. Steadman, back of whom sits the writer, apparently gazing into the far distant. At his back stands Mrs. H. H. Bascom, of Or-



VERMONT BEE-KEEPERS' ASSOCIATION, HELD AT THE RESIDENCE OF V. V. BLACKMER, ORWELL, VT., MAY, 1893.

well. Mrs. R. H. Holmes is at her left, with Mrs. E. J. Smith sitting in front. At Mrs. Holmes' left stands Allen Plue, who is assisting Pres. Larrabee, who sits in the foreground just in front of Mr. V. N. Forbes, of West Haven, present member of the Vermont Legislature from his town. At his left stands Mr. P. B. Wolcott and mother, and in front sit Mr. E. J. Smith and Mrs. H. H. Burge. In the rear are the bee-hives and the honey-house and shop combined. The entire apiary is not shown; but in this glimpse of a Vermont apiary and members of the Vermont B. K. A., much more can be learned from the picture than from a long article.

H. W. SCOTT.

Barre, Vt., July 17.

CALIFORNIA.

W. A. PRYAL'S IMPRESSIONS OF THE WORLD'S FAIR, HONEY EXHIBITS, ETC.

Editor Gleanings:—I have just finished reading several interesting articles in your journal. Those that took my fancy the most were the account of the World's Fair by Dr. Miller and Mr. Martin's California ramble. I was interested in the former, because I had "done" the big fair myself, and knew what the doctor was talking about. I had even seen it up to a later period than the genial correspondent of GLEANINGS had covered. The "sage" part of Mr. Martin's was interesting to me, because I had made a study of the famed California honey sage, and had, in fact, had the drawings of the plant and flower that figures in the A B C of Bee Culture made from a plant that grew in front of my apiary here. That was just ten years ago. The plants grow more robust here than they do in their native wilds in the southern counties, which may account for the slight difference in the shape of the flower. I am glad that so good a critic as the Rambler finds no fault with the flower and plant as engraved.

As Dr. Miller has stated a good deal about the fair, at least about the honey exhibit, I shall not go into any description of it. I visited the honey department in the Agricultural Building several times. There was an interval of over two weeks between my first and last visits. The first time I went there was in company with the able and gentlemanly editor of the *American Bee Journal*, Mr. G. W. York.

It was on the occasion of my first trip to the sweetest corner of the Agricultural Building that I met a couple of the prominent apiarists of America. It is true, there were not many of them present; but those of whom I had the pleasure of making an acquaintance were men who are the peers of any men in the calling in this land. As Dr. Miller has referred to the exhibits they have in charge, it will be unnecessary for me to repeat any thing more about them than to give their names. These gentlemen were Mr. E. Whitcomb, of Nebraska, and Mr. Allen Pringle. There was one other personage who, I believe, is an apiarist of no mean degree, and that was Miss Pringle. This young lady was assisting her father with the Ontario exhibit. It is needless to say that much of the attractiveness of that province's display is due to the exquisite taste and the deft fingers of Apiarist Pringle's charming daughter.

Aside from one or two of the honey exhibits, I was not greatly impressed with the way in which they were cooped up in those long showcases. It seemed to me that something better for the purpose might have been devised. I was also surprised that so few States were making exhibits. I should have been surprised at seeing my own State unrepresented, but for the

fact that I knew, some months before I went to the fair, that we were not going to make any showing, for the good reason that our World's Fair Commissioners refused to allow the California bee-keepers any money or other aid in getting up an exhibit. They were given \$300,000 by the State legislature, and this they used for purposes that were not altogether for the best interests of the State. Still, in some other lines they have made a good showing for the Golden State. They did not have even an exhibit of our wool. We excel in bees and wool, though both don't go well together in this State.

A visitor to the fair would think that we were the biggest part of the fair, from the many natural products we are showing; but if he were to see some of the good things that we are not showing he could not help believe that we are the greatest portion of the earth. You know a Californian does not think of asking for the earth, as some people elsewhere do, for the reason that we already have the best part of the globe. We are satisfied; why should we want more? Even with me, a Californian who had never been out of the State before, there is no inducement that would make me give a small slice of California for a whole division of the eastern country with a fence around it. I went east to see the *East*, and I saw the greater part of it as far as New York "town," and as far south as old Virginia. There was one place I wanted to call at, and that was the Home of the Honey-bees. As I had only one day remaining in which to go from Washington to Chicago, I could not remain over without losing my ticket. If I ever pass through Ohio, as I did on the 9th of this month, I shall surely try to make it convenient to drop around to see the establishment of the Messrs. Root.

W. A. PRYAL.

North Temescal, Cal., June 30.

BALDENSPERGER'S LETTER.

SOMETHING ABOUT THE WRITER'S FAMILY.

The citadel of Solomon, referred to in my previous letter, is an oblong inclosure for cavalry, having one heavy iron door. Rooms and stables were built all around inside, against the walls. My father lived near there 45 years ago, when he was sent out as a missionary; but he soon gave up, continuing to work among the people in another way than by the prescriptions given. He was about a year or so following agriculture and apiculture in what was then the primitive way. I send you a picture, but it will be too dim for you to reproduce.* It represents one of father's apiaries as it existed and still exists. There is a large arch built in the court of the citadel. It is made of heavy masonry, to protect the bees from sunshine and rain. The jars containing the bees are piled one on the other, and an entrance behind permits the apiarist to operate with his bees without disturbing them in their flight. My father has been out there among the Bedouins in a time when civil war cut up Palestine into a vast military camp. He went about his business, and was never touched by any of the robbing and murdering bands of the vicinity. When the picture was taken he was sitting on a large stone near the top of the arch, while the bees were flying below.

*As suggested above, the photographs are altogether too dim to admit of a reproduction here. We regret this very much, as they greatly help the description, some of which we have been obliged to omit on that account.—Ed.

In 1849 he was asked to take place, temporarily, as steward in Bishop Gobat's orphanage on Mount Zion, until the right man could be found, and only under such conditions. He left the desert of Judea, where he lived in peace with every man; and, having married a young Alsatian, who came out to Jerusalem to join him, they occupied the place. The bishop died ten years ago. The orphanage passed into the hands of the Church Missionary Society, and both of my parents are still waiting the arrival of the "right man" to occupy the place held by them temporarily for the past 44 years.

I send also a picture of the orphanage on Mount Zion. Near by may be seen the walls of Jerusalem. In the center is the Tower of David, held by Mohammedans. In the same building is also shown to visitors the room in which Christ and his disciples had the last supper, on the evening before the crucifixion. Beside the schoolhouse is the Protestant cemetery. Behind the cemetery is a Russian tower on top of Mount Olives, several miles away from Mount Zion. Near the center of the orphanage is a small arch in which bees were kept for 30 years in the earthenware jars till friends Jones and Benton taught us better ways in 1880, and took the first Holy-Lands introduced to Europe and America from this spot.

The rain water gathered in Solomon's pool, below the above-named citadel, originally flowed to Jerusalem along the mountain-sides for about 12 miles, and was designed for the ablutions of the faithful in the temple court. The aqueduct passes below the orphanage, and goes around Zion to Mount Moriah, where now only Mohammedans enter freely, and have use of the water when there is any. Christians are admitted only by paying a fee, and under the protection of the consular agent of their respective countries. Jews are not admitted at all, under any circumstances. In fact, it is only since the Crimean War that Christians have been admitted, in compliance with a treaty of peace between England, France, and Turkey. Any attempt before that period to enter disguised was severely punished, and in many cases the transgressor was brutally murdered by the mob. Although the sultan allowed some distinguished persons to enter, the sly mufti interpreted it thus: "You have permission to enter, but none to go out," whereupon the parties declined. The first person who entered the Holy of Holies was the king of Belgium, soon after the Crimean War. Since then almost every visitor to Jerusalem has been admitted. PH. J. BALDENSPERGER.

Nice, France.

THE EIGHT-DAY RULE FOR SWARMS.

THE EFFECT OF THE PRESENCE OF THE QUEEN ON THE SIZE OF THE CELL.

I think I see the twinkle in Doolittle's eye as he caught me up on that "straw" about cutting queen cells. He knows very well, that, whatever may be the proportions of swarms of one kind and another, when we talk about prevention of swarming, if the expression is not modified in any way, prevention of *first* swarms is always meant. And I don't know of any problem that has been more steadily growing in interest than that same one to prevent *all* swarming. And if we can prevent all first swarms, we need worry little about after-swarms. And let me say right here, that, if my "straw" was the means of bringing out Doolittle to give the rule for cutting out cells 8 days after the first swarm, or, better still, after hearing piping, then it was a good thing.

But, just for the sake of paying him back, I'm going to say that his rule can not be relied on in all cases; for too often a cell will be missed. A cell may be curled up between the comb and bottom-bar in such a way that even the experienced eyes of Doolittle would miss it. Still, these cases will be few with sufficient care.

One thing I do not remember seeing mentioned. It is, that you are five times as likely to succeed in cutting out all cells if they are started with a queen present as you are if they are started after a queen is taken away or caged; for with a queen present I think queen-cells are always started with a cup larger than a worker-cell and from the egg. If the queen is absent or caged, then grubs in worker-cells are chosen; and when these are completed they are often very insignificant-looking and hard to find. Sometimes they are hidden in corners, and sometimes they are on the middle of a comb, right among sealed worker brood, the only thing to show them being that the queen-cell is a little larger than the worker cells around it, but scarcely projecting any more above the surface. And yet such cells may produce large queens, for aught I know as good as any. Still, I must confess a preference for a cell that looks like a big peanut.

SHALL WE TRY TO PREVENT PRIME SWARMS?

With some little trepidation I attack that last sentence of brother Doolittle which suggests that cutting out queen-cells before swarming may result in a loss of honey. In the main it may be true, and I am not sure that I shall ever cut another queen-cell to prevent swarming; but the statement seems to draw in its wake a sort of belief that it is best in general to let bees take their own course with regard to swarming; in other words, that we should entirely give up the problem of prevention of swarming—that problem in which such a keen interest has been awakened.

I have no doubt that there are cases and places in which more honey can be obtained from a colony and its swarm than from the colony alone without any swarming. But for a great many of us, where swarming comes right in our harvest, with little or no prospect of any after-yield, the colonies that never take it into their head to swarm, other things being equal, are the ones upon which we can rely for best work.

Besides, we are not merely to count which will give us most honey—a colony with or without swarms. That may do for those who keep bees for the pleasure of it. I have no quarrel with the man who takes more pride and pleasure in getting 500 pounds from one colony than in getting 1000 from ten colonies. He is working for the pleasure of it, and he has his reward; but for those of us who swap our honey for bread and butter, the case is different. I am not so much interested in the amount I can get per colony as I am in the total crop. An average of 20 pounds per colony will suit me better than 100, providing that the plan that gives 20 pounds per colony will allow me so much less labor per colony that I can have a greater total crop.

Just here I stopped and looked up my assistant and said to her, "Emma, what proportion of our work, in your opinion, after the bees are out of the cellar, is given to the prevention or management of swarming?"

She looked thoughtful for a minute, and then with a little laugh said, "Most all of it."

"That's putting it pretty strong," said I; and yet I'm not so sure that it's far out of the way. Given a strong colony of such a breed that I know it will have no thought of swarming, and

the labor of putting on and taking off sections will be very light. If I had such a breed, and it would give an average of 40 pounds per colony, I think I could do better than to have a swarming breed that would give 100 pounds per colony. The case would be different if I were limited to a certain number of colonies; but with most of us it is a limit of time and labor rather than a limit of numbers. So I say, give me the non-swarming kind, with a small average, rather than the swarmers with a big average. You see, the labor that would take care of 100 colonies of the swarming kind, with an average of 100 pounds, would easily care for 300 of the non-swarmers with their average of 40 pounds. The former would give me a total crop of 10,000; the latter, 12,000. The first might give me a bigger name, but the second would put more money into my pocket.

At this point I think I hear brother Doolittle saying, "Yes, but all your tinkering to prevent swarming and interfere with nature's plans are, in the main, failures, and involve just as much work as to let the bees have their own way." I hang my head at this, but rally after a minute, and say, "But all things in the line of real progress come about generally through a series of efforts and failures, and you mustn't try to discourage us, brother D., while we're trying to work 'along that line.'" In "A Year among the Bees" I said, "The problem which I am most anxious to solve is, how to manage to have no swarms, and still allow the queen to remain laying in the hive all the time. It may never be solved; but it is worth some dreaming over." I am of much the same mind still, only with more hopefulness that the dream will become a reality. With so many all working on the same problem, sooner or later I look for a favorable solution. Very sensibly, bee-keepers are giving up talking so much about a big yield per colony, and are bending their energies toward finding how to get the biggest yield per man. Some day we'll get there—at least, I hope so. C. C. MILLER.

Marengo, Ill.

DOCTORING WITHOUT MEDICINE.

ANOTHER CHAPTER.

We clip the following from the *Mayflower*. You may laugh when you read it, but I believe it is true, and I believe the dirt-pile would not only be cheaper than doctors' stuff, but ever so much more efficacious with every baby the world round. Now read it.

BABY AND THE DIRT-PILE.

She was puny from her birth. For the first sixteen months she required care night and day. It was the young mother's first baby, and how she longed for a well, happy child! An old great-aunt visited her, who had seen ten boys and girls grow up. "What shall I do with her?" said baby's mother. "Try the dirt cure," said great aunt. "But she'll soil her frock, and get herself all dirt." "So she will, dear heart, but it may save her life." A blanket was spread on the ground, and the baby, that could just sit alone, was put on it. She seemed to like it right away, and in a few days could work herself to the edge and take up the soft dirt in her fingers. But what a looking child after an hour or two's play! She was possessed to throw the dirt into her hair, down her dress, and get her shoes and stockings full. But mamma was happy to see the little one hungry when brought in to the house, and glad to drink her milk. After a warm bath she slept soundly, and this she had never done. It was wonderful how the child picked up, and what "dirt cure" did for her. As years went on, her mother bought a set of light garden-tools and encouraged her to have a garden. If from any cause she stayed in the house for several days a severe cold and sickness was the result. So she became an outdoor en-

thusiast. Even when sewing or reading she had her chair on the shady porch. One day I saw the child setting out plants in the rain. "Won't you take cold?" said I. "No," said she, "I shall rub off and put on dry clothes when I go in, and it is delightful to be outdoors when the air is so moist." SISTER GRACIOUS, Mich.

That winding-up part about setting plants out in the rain is just exactly according to my experience. Being out in the rain never hurts me a particle; but, on the contrary, it does me good, providing I do not get the least bit chilly.

ANSWERS TO QUESTIONS

FROM BEGINNERS.

H. D. P., of Kansas, inquires whether, if he begins with the pure Italians, they will be likely to remain pure. *Ans.*—They can be kept pure by using perforated zinc, and destroying the impure drones in the neighborhood. See "Drones," in the A B C book.

T. B. S., of Arizona, wants to know where the royal jelly comes from for grafting queen-cells after swarming-time. *Ans.*—Usually there will be enough cells from the queenless colonies in the various parts of the apiary, containing royal jelly with which to supply grafted cells.

G. A. M., of Ohio, wants to know whether bees can be successfully transferred by the Heddon short way, at this season of the year. *Ans.*—They can. In fact, now is a very good time to do it. Any time is good to transfer when the bees are *not* working heavily in the fields, though perhaps the best time in the year is in the spring.

T. D., of Michigan, asks whether the bees would not destroy the queen on the Langdon non-swarming plan. *Ans.*—Although we have not tested the plan ourselves, if we are correct the bees do not kill the queen. The trouble seems to be, at present, that the bees are apt to die from suffocation; and that the plan, instead of preventing, actually encourages swarming in some cases.

W. H. S., of New Jersey, has a lot of second swarms, all of them weak, and he wants to know what to do with them. *Ans.*—We would first see that each has a laying queen; and then by stimulative feeding we would cause them to rear as much brood as possible, so as to be of good strength for winter. If so many colonies are not desired, unite them, as given under the head of "Uniting," in the A B C of Bee Culture, which you say you have.

M. M. B., of Pennsylvania, has some 25 lbs. of last year's foundation. He says it is too old and brittle, and wishes to know if there is any practical way of restoring it to its original condition, or a condition soft enough so as to be used over again. *Ans.*—Some one recommended, some time ago, putting such foundation into a warm tepid bath for a while, and claimed that it would make it so the bees would take to it as readily as any foundation. We have never tried it, and can not speak positively as to whether it would work or not.

A. B. S., of Ohio, wants to know if there is any law to protect bees from being trapped and scalded, or poisoned. *Ans.*—A case of this kind came up some time ago; and, if we remember correctly, the destroyer of the bees was compelled to pay damages. A good deal hinges on the point as to whether the bees in the first place were trespassing—that is, robbing from broken fruit. This is one of the nice questions,

and should be submitted to competent legal authority. We would advise A. B. S. to correspond with the General Manager of the Beekeepers' Union, Mr. Thos. G. Newman, Chicago, Ill. If not a member, he should become one at once.

C. E., of Colorado, wants to know why bees will cluster on the outside of the hive. *Ans.*—The clustering on the outside is usually caused by too hot weather or an entrance that is too small, or both. Of course, it is assumed that they would not thus cluster out were it not for hot weather; and, the entrance being small, they are unable to keep the hive sufficiently cool by fanning. You can smoke the bees into the hives again, but they will come out. If the hive is too small, give them more room by means of an extra super, and see that the whole hive is properly shaded.

L. V. T., of New Jersey, says that, the honey-flow having now ceased, he has divided his bees, and would like to have them build up strong for the fall flow. He asks whether sweetened water would cause them to do this; and if so, is there any liability of its remaining in combs unevaporated or souring. *Ans.*—Sweetened water given in small amounts daily ought to cause the bees to rear enough brood so as to put them in fair shape for winter. Sweetened water will give no trouble, because the bees will soon evaporate it down. It is usually preferable to mix the sugar and water in about the proportion of $\frac{2}{3}$ of the former to $\frac{1}{3}$ of the latter, by bulk.

R. N. L., of Nebraska, asks how far drones and queens will fly from the apiary in mating. *Ans.*—No one can tell positively; but it has been observed that, of two apiaries five miles apart, one containing Italians and the other black drones, there will be hybrids in both in time, even when it is known that there are no bees between—certainly no Italians except those in the Italian apiary, showing that, if the queens and drones each fly about half way, it would make it $2\frac{1}{2}$ miles. From various facts that have come up, it is evident that mating may occur two miles from the apiary, or about that, though, as a general rule, it will take place within half a mile, and generally a little remote from the apiary at least.

J. L. A., of Kentucky, inquires whether it ever gets so hot that the bees can not make comb. *Ans.*—If the hive is painted a dark color, and is not sheltered in some way from the direct rays of the sun, it may be so hot that the bees would refuse to build comb, or, in fact, do any thing else. Indeed, there are times when the inside of the hive becomes so hot that the combs melt down, and then, of course, nothing can go on decently and in order. As a general thing, however, bees can keep the hive cool by means of the artificial currents they make with their wings; and it is only when they can not do this that the combs melt down. We must not expect our pets to accomplish too much. Give them a little assistance in the way of a shade.

C. N. W., of New York, asks why the bees uncapped sealed brood. *Ans.*—The brood may have been overheated or chilled at some time, or possibly moth-worms may be making their way unobserved by you under the cappings. Any or all of these causes may result in the bees uncapping the brood. He also asks why the bees sometimes come tumbling out of the hive in lots of two or three, clinging together by the feet, and, after struggling a while, free themselves. This is evidently a case of a robber or two getting past the sentinels at the entrance, and, finally, being discovered by the

workers farther in the hive, they are grabbed. A struggle immediately follows, in which more of the bees grab the robber; and the result is, they come tumbling out of the hive as stated, but, as a general thing, the robber frees itself.

S. F. T., of Illinois, wants to know how to make his bees work on buckwheat that is two miles distant from the apiary. *Ans.*—It is not always that buckwheat yields honey; and under such circumstances it would be impossible to get the bees to work on it, even if it were within a few rods of the apiary; and in the second place, bees do not usually work to advantage at points further distant than a mile and a half; so that, even if the buckwheat in question did yield a little honey, it would be just a "little far off." In this connection it would be proper to remark, that bees have been known to work, and work well, on fields two or three miles from the apiary. In some instances they have been known to go seven miles over water or over prairies; but all of these are exceptions to the general rule.

B. T. S., of West Virginia, asks how to get a black queen out of a patent hive, without movable frames. *Ans.*—Turn the hive upside down, if it has an open bottom, and place over it a small inclosed box, on the under side of which is a hole smaller than the patent hive. Drum on the sides of the hive until all or nearly all of the bees run up into the box. Presumably, the queen will go with them. As black bees run and scamper over each other, it is very difficult to find the queen, especially if you are not an expert. Place perforated zinc over the hole in the box; set the patent hive back on its stand, or, better, put a new hive with movable frames on the old stand. Now place the box, with its perforated zinc, in front of the hive; smoke or drum the bees out. As the queen is larger, she will not be able to pass the perforated zinc, and will be detained in the box. If no zinc is at hand, shake the bees out on the ground in front of the hive, a short distance from the entrance; and then, as they crawl into the hive, look sharp for the queen. We might add, as a second thought, that it may be better to put the perforated zinc in front of the entrance. The queen will, of course, be barred from passing into the hive.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

When the bees swarm I take and give the old colony a pulled queen from some choice stock, and this prevents all after-swarming and Italianizing at the same time. EMERY NELSON.

Bishop Hill, Ill., July 20.

WIRE SCREEN IN SMOKER-NOZZLES.

About a dozen years ago I placed a wire-gauze spark-arrester in the nozzle of my Bingham smoker, and was much pleased with it. I wrote to Mr. Bingham, suggesting this as an improvement. He replied, thanking me for the suggestion, but said that he had already tried and discarded it, and thought I would soon discard it. I did, and have never used it since.

Excelsior, Minn.

JOHN W. MURRAY.

[Yes, but read this:]

WIRE CLOTH FOR ARRESTING SPARKS IN SMOKER-NOZZLES.

As to using the window-screen wire cloth in smokers, I will say I have used a Bingham smoker for three years, and did not have it a

month until I threw away the "rigger." Bing-ham sent to hold the fire in, and inserted a piece of window-screen wire cloth in the nozzle. Had I to do without the wire cloth in the Bingham, I would do without it.

Atherton, Ind., Aug. 7.

G. F. AYRES.

AN EIGHT-YEAR OLD WHO CAN FIND QUEENS.

I can not let Leah Atchley and Ralph Benton take the honor of being the only little folks who take great interest in bees, and love to work with them. We have a little boy, eight years old June 1, who works among them without gloves or veil. His mamma died before he was two years old; since, he has been his "auntie's boy." When I work among the bees, "Ed" does too. He can see a queen as quickly as any one, and always looks to one side of the frame while I examine the other. He owns an interest in the bees, and next year will manage a part of them alone, if the Lord spares us till that time. He is named George Edward Davis.

Mrs. SARAH E. DAWSON.

Montrose, Col., Aug. 8.

HOW I SCRAPE SECTIONS.

On page 631 you use this language: "By the way, we should like to inquire here what sort of device our comb-honey producers have been using for supporting the sections while being scraped." My super, or section case, has slats for the section to rest on, so there is very little bee-glue that gets on the bottom, and none on the ends; and before the sections are taken out of the case I lay it on a shelf where it is convenient to get at, and with a piece of glass I take both hands, so as to apply considerable strength, and soon clean the tops of a whole case; then when taken out of the case I hold the section in my left hand while I finish. Being in the case solid, they need no holding while I scrape the tops. The piece of glass should be large enough so you can use both hands to advantage.

O. B. BARROWS.

Marshalltown, Iowa, Aug. 19.

THE NAMELESS BEE-DISEASE.

Friend Root:—Many are the illusions under which bee-keepers labor, and more especially beginners. For their benefit I wish to relate an experience of my own during last June. I had a colony of Italians whose queen I prized highly for her size and color, and also for the deep orange-colored workers she produced. On my arrival at the farm one day, I saw what seemed to me to be the "nameless disease" in its worst form. A large lot of bees were lying in front of the alighting-board, some dead and some kicking. Every thing about the hive looked very quiet; but bees kept bringing out, leisurely, half-dead sisters, adding them to the pile of dead in front of the hive. "The nameless bee-disease, without a doubt," said several of my bee-keeping neighbors. However, I knew my golden-colored queen and her deep-yellow workers, and saw that now, half of the bees of the hive were blacks and hybrids. Upon opening the hive I found that a dark queen had taken the place of my bright Italian one, and my golden workers were about half mixed with hybrids—no dead bees in the bottom of the hive—no fighting; but the bees were still at it, carrying out half-dead workers. All was plain to me; to wit: A hybrid swarm of one of my neighbors had taken possession of my hive of Italians, and killed my queen. Peace had been or was about to be established when I saw them, although, for several days more, dying bees were carried out. I superseded to-day the hybrid queen by a fine yellow one. If both colonies had been of the same

color, mine would have been pronounced a case of the "nameless bee-disease" by everybody versed in bee-literature.

Cincinnati, O., Aug. 19.

CARNIOLANS; THE GRAY VS. THE GOLDEN.

What are the distinctive marks of the Carniolan bee? I see in the journals so many assertions, pro and con, that it seems to me about impossible to come to any conclusion on the subject. I have what were bought for Carniolan bees; but after reading, and comparing the ideas and conclusions of different writers, I don't know whether I have them or not, or whether I have Italians or a mixture of Italians and something else. I think that, if any one is capable of giving a satisfactory solution of the question, "What are true Carniolans?" you should be a reliable referee. If the gray is the genuine Carniolan, then what is the golden? Is it a variety, as the white and brown are varieties of the Leghorn breed of fowls? And if a variety, how has it been produced? Please give your ideas in GLEANINGS.

Denison, Texas.

C. FISHER.

[Frank Benton, who handled the bees for years in their native home, says that the typical Carniolan is a dark steel-gray bee. The so-called "golden" Carniolans seem to be nothing more nor less than Italians with, perhaps, a little Carniolan blood; for Mr. Alley admitted that his golden Carniolan queens were mated in an apiary but a little over a mile from a large apiary of Italians. Plenty of proof has been produced to show that queens will mate, not only a mile from the apiary, but sometimes three or four miles. The source of the yellow in Mr. Alley's Carniolans is plain. See J. A. Green's article in the *American Bee Journal*, page 467, vol. xxviii.]

THE LANGDON PRINCIPLE WITHOUT THE DEVICE.

The principle of Langdon's swarming-device can be used without using his device. Simply put two colonies close together, and put on one an Alley trap and nail over the zinc a thin board. Now it will act as an escape. All bees going out can not get back; and, being so close together, the bees will go into the open hive. In a week change places with the brood-chambers. This gives the bees the same entrance, and all bees now coming out of the hive, with the escape, go right into the hive that is open, without any fussing, as the entrance is in the same old place; you have simply changed places with the brood-chambers. I think the principle is a success, for the colonies are working nicely. They have 40 sections pretty well along. They work like extracting swarms.

By placing the hives with entrances facing each other, and bottom-boards touching so the bodies will be about 4 or 5 inches apart, and using an escape-cone in front of the hive that has no sections, you would not need to lift the hive to change the brood-chambers, for the entrance is exactly in the same place, and bees would find it sure. It would make no difference which hive had the escape in regard to bees finding entrance. By the above it will cost only the cost of a box with a bee-escape, to try the plan. Those having the Alley trap can use it as a bee-escape by nailing a thin board over the zinc. For the trap, entrances should be 7 inches apart.

F. A. SALISBURY.

Syracuse, N. Y., June 20.

Inclosed please find \$1.00 to continue our subscription for GLEANINGS. We consider it to be the best bee-journal that we have ever taken, and do not intend to ever be without it in the future.

Santa Ana, Cal.

EMERSON BROS.

REPORTS ENCOURAGING.

My bees are doing splendidly this season.
Little Elm, Tex., Aug. 7. POKE MARTIN.

Bees in this section have not done so well in
ten years as they have thus far this season.
Canastota, N. Y., July 3. A. H. ROOT.

REPORTS DISCOURAGING.

I am well pleased with GLEANINGS, but my
bees have not done any thing this year, and I
am not able to take it at present. It has been
the worst honey season this year I have ever
seen. I have 50 hives, mostly Italians, in a
house 8x36 feet. J. W. HOUSE.
Hollins, Ala., July 22.

Friend Root:—I am glad to hear of so many
good reports this year from neighboring States;
but we here have to record this the poorest of
this series of very poor seasons. I got, on an
average, a little more than a pound to the hive;
but I may get some honey this fall.

A. T. McKIBBEN.

Flag Spring, Ky., Aug. 10.

A large district in this part of Colorado, and
how much more of the State I do not know,
has very little honey. The good reports have
been coming in. The bad will be along by and
by. For two years now Colorado has been be-
hind in honey, and can not send a respectable
exhibit to Chicago. I did want so much to be
at the meeting in October! but it looks now as
if we should have to walk if we get there.

Loveland, Col., Aug. 8. R. C. AIKIN.

DISCOURAGED.

I shall have to request you to stop GLEAN-
INGS. Bees have made a failure this year. I
am discouraged. We got no clover honey, and
what honey we did get is very dark and hardly
fit to eat. I can't imagine what was the mat-
ter with the clover. It bloomed well, but it
was a month late, and gave no honey.

Springfield, Mo., Aug. 12. W. H. RITTER.

POOR SEASONS IN INDIANA.

The *Progressive Bee-keeper* says, "Hope, the
bee-keepers' bank account, is often over-
drawn." Well, the name of the bank here has
been "hope" for four or five years at least;
and at last there has been a run on the bank.
The bank is "busted," and not likely to re-
sume; but we are a little better off than S. E.
Miller, for we have enough to spread our bus-
cuit—providing we don't use too many biscuits,
and spread the honey a little thin. I have kept
a strict honey-account for the last four years,
and have kept supplies (from you) for sale all the
time, to help out. I have had each year about 50
colonies. I never lost any colonies except those
that became queenless or did not gather enough
honey to build up on, and had to be doubled up.
I had 50 colonies in the spring of 1893; bought
\$36.00 worth of sugar, and commenced to feed a
pint a day about April 25th (scarcely any thing
from outside) in evening to each colony. I had
them in very fine shape. I read, "Prepare for
the honey-shower." Hope brightened and I
took courage; invested \$15 or \$20 more in Root's
Dovetailed hives. Well, one consolation—when
I read next year, "Prepare for the honey-
shower," I shall have 20 dollars' worth to fall

back on that have never been opened. Well, I
increased from 50 to 70, and did not get 300 lbs.
of honey—did not get half as many pounds of
honey as I fed sugar. As a result of the four
years, I shall have, say, 50 colonies, and may
have to feed to winter yet some 30 or 40 empty
hives; an extractor (no use for), a sun wax-
extractor (for sale cheap), and about \$40.00 of a
balance on the credit side of the account. So I
shall step over into the ranks of blasted hopes.
Atherton, Ind., Aug. 7. G. F. AYRES.

NOTES OF TRAVEL.

ON THE WHEEL, AUGUST 5.

Happening to be in the neighborhood of Mr.
Wilbur Fenn's, whom I mentioned visiting on
page 533, I thought I would take a look at his
potatoes. You will remember that, about June
1, I saw his potatoes that he intended to plant
spread out in his cool cellar, with scarcely a
sprout on them; and on this present visit, Aug.
5, we had just been having a nice rain, and I
supposed he would be out among them. On
inquiry I learned that such was the case. A
bright little girl and a couple of boys volun-
teered to take me down to the field where their
papa was at work. As we passed through the
garden I began to make exclamations of sur-
prise to see it looking so well during our severe
drouth. The children, I found, knew all about
it. They could tell me just where the Snyder
blackberries were, the Agawam, and all the
other varieties. My youngest brother, who
was just then paying me a visit from his far-
away home in Tempe, Arizona, declared some-
thing as follows:

"Why, brother Ame, I believe I am more
interested in looking at the blackberries than I
shall be with the potatoes. Perhaps you had
better go on, and leave me here for a little
while."

I accordingly did so. Of course, I enjoyed
the blackberries (in two ways); but when I got
to where I could see around the rank growth of
canes, I did indeed enjoy a glimpse of that po-
tato-field. The hundred bushels of seed had
been spread over about nine acres, and it was a
great deal like friend Terry's clover. There
were no bad spots, and very few extra good
spots. The foliage was rank and green, and
the cultivators were just stirring the soft fine
soil in a way that ought to make any one who
loves farming feel happy. There were a few
weeds scattered here and there; but my friend
said the cultivators would destroy the greater
part of them. Said I:

"Why, look here, Wilbur, where are the
bugs? What have you done to get rid of
them?"

"I haven't done any thing."

"But haven't you had any bugs at all? has
your potato-patch looked just like this all
through this season, when everybody else has
been having such a terrible time with the old-
fashioned kind and the new-fashioned kind too?"

"No, we did not have any; and, what is more,
I did not expect to have any."

May be you think this pretty cool, dear
reader; but I tell you, a farmer who has studied
into the matter, and has become acquainted
with nature and nature's laws, can often pre-
dict a successful crop in just this way. I did
not have time to get at the full particulars;
but I think his success in evading bugs is, first,
by planting late; then by having soil and
every thing else in such shape that he can get
such a rank growth that the bugs do not relish

them or make much headway in their work of destruction. He has visited friend Terry, and they have compared notes, and talked matters over. Now, a great truth comes in right here, and one which I am sure, friend Terry will fully indorse. It is this: Mr. Fenn, as he is situated, and as he has been working, does not deem it best to follow Terry *exactly*. In the first place, he does not put in wheat after his potatoes; therefore he plants them late—just as late as he can and avoid frost; and so with other things. But a visit to friend Terry's stimulates him to more energy and harder study in the line he is working on, even if it be a little different from that of Terry's. That we may learn to *think* and *act* for *ourselves*, is, if I am right, what Terry is trying to teach. His potatoes are planted on clover sod; but there is a heavy growth of timothy mixed in with the clover. He plants with a machine. He said he agreed with friend Terry about hand-planting, and would prefer it; but as he is situated, it is hardly possible for him to take time to plant by hand. As we went over the field, we found, as Terry has said, here and there a hill entirely missing. Sometimes two hills pretty close together were missing. These misses amount to more than I had supposed until friend Terry called attention to it. Mr. Fenn cuts to one eye, or pretty nearly, as Terry does. I asked him if there were no remedy for these missing hills when planting by machinery. He said he knew of none. Of course, there will be less of them if you set the machine so as to put *two* pieces in occasionally instead of one; but when you reach the proper limit, the remedy is as bad as the disease, or even worse. Now, I am inclined to think the men who make the planters will in some way get around this objection. I suggested putting something else in to fill up these empty places; but in that case you have *two* crops on the same piece of ground, and the fuss and bother would be more than the crop would be worth. Another thing, the value of the land has a bearing upon the question of missing hills. In my comments on Mr. Fenn's farming, on page 534, by a slip of the tongue I said Empire State when I meant to say Monroe Seedling. He calls my attention to it in the following extract which I make from one of his letters:

I tell you, cousin Amos, good plowing is absolutely necessary for the best success in farming; and the farmers who plow as they should are very scarce. The variety of potatoes that I grow is the Monroe Seedling instead of the Empire State, as you put it. I wish you would correct this, for a year ago last spring I advertised the Monroe Seedling for seed, saying that I should plant them entirely myself. Now, people will think that, while I *plow* straight I don't *talk* straight. The Empire State is behind the times, and run out. I have grown the Monroe Seedling for three years, and think lots of it.

Tallmadge, O., Aug. 12.

W. W. FENN.

I am ashamed of this blunder, for we ourselves discarded the Empire State from our catalogue some years ago.

Before we left, I wanted to see the crop on that ground where that straight plowing was done. It seemed almost incredible that there should be a good stand of corn where he was plowing so recently as June 1. But there it was. I tell you, friends, there is not a more encouraging sight in this world than an enthusiastic and successful young farmer; and one secret of the success I have mentioned was the bright intelligent young wife who shows by her looks that she is in full sympathy, and knows all about the work that is going on outdoors as well in the house. Yes, and this is all true, even if she did have a fine healthy-looking baby in her arms, that was no part of the household during that other visit, June 1.

OURSELVES AND OUR NEIGHBORS.

Watch ye, stand fast in the faith, quit you like men, be strong.—I. Cor. 16:13.

Since something has been said about the way men are "built," or, if you choose, excusing mankind for various sins on the ground that they were "built that way," or could not help it, the matter has been a good deal in my mind. Perhaps the fact that so many communications or suggestions have come in through the mails in regard to the matter has something to do with it. I hope no one will feel hurt when I say that it seems to be those who reject the Bible as the word of God who claim that a man acts the way he is built, and that the blame, therefore, rests upon the builder rather than the man himself. Here is a letter right before me, from away off in California, in this line:

Friend A. I. Root:—If I rightly understand, you claim that all human beings are "free agents"—*i. e.*, capable of choosing and doing the right or wrong at all times and places. It is said of Jesus, that, at a certain time and place, he *could not* do many mighty works because of their unbelief. St. Paul says, "The good that I would, I do not; but the evil which I would not, that I do." Was Paul a free agent? If not, why not? J. H. BEMIS.

Ontario, Cal., Aug. 12.

Friend B., I thank you for addressing me as you do—"Friend Root." I take it from this, that, even if you do not agree with me, you cherish friendly and brotherly feelings. A good many times, in discussing matters of this kind, before making a decision I take a glimpse of what the results of such decision may be. Although you do not say so, I take it that you do not accept the doctrine of free moral agency. Now, let us look the world over and consider what results will follow from your position or from mine. I should say to every man, woman, and child, "You are responsible for your acts;" and then I would add, in the language of our text, "Stand fast in the faith, quit you like men, be strong." Will it not be better, as a rule, to preach and teach in this line? Of course, there is a *limit* to human responsibility. After we have done all we can with a man, or for him—that is, all that we can *consistently*, and he still persists in error and crime, our responsibility is ended. Even if we are responsible for our own acts we can not undertake to be responsible for the acts of others; and, in fact, even the Master himself was helpless in a certain degree on account of unbelief. Just one illustration: A good friend of mine was greatly elated a short time ago because he had found a medicine at the drugstore that would cure the appetite for tobacco. He was going to do mighty things among his friends and acquaintances. After the drug had performed several wonderful cures, however, he met a man where it entirely failed; and this last friend finally gave as a reason for the failure, that, to come right down to it, he "didn't *want* to be cured." Now, the unbelief of the Scriptures, I suspect, was right along in this line. Jesus could not do any mighty works of healing, because they did not really want to be cured at all; and, while we are about it, perhaps I might say that this illustrates what is so often meant by the word "unbelief" in the Scriptures.

Your second case, in regard to St. Paul, I would explain thus: Paul realized that he was human, and that to err is human. The best of us, even when we have the best intentions, make grievous blunders; and before we know it we have done just that which we would not do; and it is not only mistakes that we make, for we are *sinful* as well as erring. The Bible tells us, "The heart of the sons of men is full

of evil, and madness is in their heart while they live." I know that some of our unbelieving friends reject this; but after having tried my level best to do right in the sight of God, and for a period of a good many years also, I have discovered again and again to my sorrow, that not only is the human heart sinful, but that *my* heart is sinful. Evil impulses and sinful thoughts sway me this way and that. My opinion is, that Paul had a like experience of his own in mind when he uttered these words; and that very passage you quoted has been wonderfully helpful to me again and again. When I fail (or *partly* fail), even after having battled earnestly, I find that even St. Paul himself did the same; for he has left on record his own experience where he says, "The good that I would, I do not; but the evil which I would not, that I do." Let me remind you, dear friend, that we are not apt to discover these imperfections in ourselves until we commence rowing upstream, as I explained in our last issue. It is only when we begin to strive with real earnestness and vigor to root up and put down the inborn sin of our natures that we find these obstacles, and are reminded that the path that leads to eternal life is not only straight and narrow, but it is an up-hill path. It is climbing up, up, up, like the trail I told you about up Wilson's Peak. But yet, dear friend, St. Paul was a free agent so far as the choice of his mind was concerned. Like you and me he was created in God's own image, in that the power was bestowed on him of choosing right or wrong. And this is where responsibility lies. We are not always responsible for the result, but we are responsible for choosing the path in which we *intend* to go. Paul chose the straight and narrow path, and therefore he could say, honestly and truly, when near his end, "I have fought a good fight, I have finished my course, I have kept the faith; henceforth there is laid up for me a crown of righteousness, which the Lord, the righteous judge, shall give me at that day."

Another thing, free agency belongs to other people as well as to ourselves. Other people have their rights in this very matter of free agency. When any thing we wish to do conflicts with the free agency of our neighbors, of course there is difficulty in the way. When we decide, in a theological sense, that man is a free agent, we do not mean that he is free to trespass on the rights of his neighbors, nor even to do any thing that would interfere with their free agency. When a man says that he could not help stealing, and urges as an excuse for so doing that he is not a free agent, then we have a right to question.

Here is another letter from a very good friend of mine, as you will see from the way in which he addresses me. I have taken the liberty to cross out considerable of it, as it was rather too long for our space.

Dear Bro. Root:—I take a great interest in your talks in GLEANINGS under the head of Ourselves and Neighbors, and I believe they are calculated to do a great deal of good. I was much interested in J. D. Kaufman's letter, and your reply to it. You have done it well. But the principal object of this letter is to draw your attention to the low standard of Christianity which you teach when compared with the teaching of Christ and the apostles. I should like to see you put the standard up where Christ puts it: "Thy will be done on earth as it is done in heaven;" "Be ye therefore perfect, etc.;" and as Paul puts it in the 8th chapter of Romans. Paul says in Galatians, "Walk in the Spirit, and ye shall not fulfill the lust of the flesh." And the Savior says in John, "He that abideth in me, and I in him, the same beareth much fruit." Now, we do not find anger, nor any thing of that kind, in the fruit of the Spirit. Don't depend on a drink of milk, Bro. Root, to keep you from giving

way to temptation, or you will surely fall; but if you fully trust God, *never*. I am not writing about something that I know nothing about experimentally. I have been trying to live a Christian about 25 years, but have learned only within the last two years the privilege of having my heavenly Father's will done continually, allowing the Holy Spirit to teach and guide, to work in me to will and to do of his good pleasure. MOSES PIERCE.

Brinsley, Ont., June 25.

You will notice that these two letters are from opposite standpoints. The former takes me to task because I place *too much* responsibility on humanity; the latter, because I do not place *enough* responsibility. I like this latter letter, however, and agree in the main with all the writer says. I do know it is our privilege to stand on higher ground spiritually if we will; but I am not yet satisfied that even God himself intended that we should live on a plane so far from earth and so near to heaven that we do not have struggles with temptation. I fear I can not quite agree with him where he says, "Do not depend on a drink of milk." If he means that I must not place *too much* dependence on a drink of milk, then all right; but if he means that we need not even take the trouble to nourish our bodies before meeting hard trials, then I think he is going too far. A part of the Lord's prayer is, "Lead us not into temptation." By this I understand that we are to avoid danger; that we are to take all reasonable precaution against being surprised by the enemy, or taken unawares. Perhaps it may be well to define what anger is. I know there are Christian people among us who say they never get angry; and much credit is due them, certainly, if they have so much regard for Christ Jesus, whom they are trying to serve, that they never let it be evident to those about them that they are disturbed in spirit. I always look with respect on a man who has grace enough to keep still and not say a word, even though he may show by his face that he is vexed and sorely tried. For instance, in an altercation between neighbors, one strikes another in the face. If the man who is struck has any spirit at all, the hot blood of resentment will show itself in his countenance; but if he can, under such provocation as this, keep still and hold steady, I for one should call him a soldier. I do not care if his face is flushed, nor do I think a whit less of him, even though his voice be so unsteady that he can scarcely speak. Now, there are these, and some excellent Christians too. I grant you, who insist that one should be *cheerful* and *smiling*, even under such a trial. If I am mistaken in this, I wish to be corrected. Dear friend Pierce, I hope you will bear with me when I say that I should like to inquire of your neighbors whether it is really true that you have so far succeeded in what you advise, that you never need to apologize for having given way just a little to some wrong impulse. There is in our community, as well as in most communities, I believe, a class of people whom we designate as "sanctified" or "holiness" people, and they are most excellent people too. We have much cause to commend them; but I do think they go to extremes in just the matter I am speaking of. They hold up an exceedingly high standard, and they exhort with much energy that others shall come and stand beside them on this higher plane. One good friend of mine spoke so earnestly on this matter in a public meeting that I made the remark that I should really like to inquire of this man's neighbors whether or not he lived up to his preaching. Now, please do not think that I mean to be harsh or unkind when I tell you that I did have an opportunity of finding out in regard to this very matter.

The report came, and I think it was fairly given, that he did not love his enemies, nor even pay his debts, any better than the common run of the members of our various churches. Another point comes in right here: When I was away from home four months on that long California trip, I was for several weeks entirely relieved from responsibility. The doctors insisted that I must be free from care and worry. Well, one day I was thinking it over and wondering what the matter was. For several weeks I could not remember that I had had even the least feeling of vexation. I was traveling most of the time, and was exposed to all the annoyances attendant upon travel. I was sick, and laid up for many days; but my mind was all tranquil and at peace. It was so unlike my usual self that I began to wonder—now, please do not think that I am irreverent if I say something that seems almost like joking on sacred subjects. What I started out to say was this: I was so free from temptation of every sort, and it was so easy to love everybody, that I began to wonder whether the old self was not sort o' fading away, and that, perhaps, I was getting, as people sometimes express it, "too good" to live very much longer. Now note the rest I have to tell you. I came back home; and gradually, as returning health permitted (and the boys and the rest of the family), I began to take up cares and responsibilities. My friends, if you expect a man who has charge of a hundred workmen to keep his tranquility as does one who has nothing else to do in the world but to please himself, you are making a big mistake. When care and responsibilities had adjusted themselves upon my shoulders, as they were before my sickness, I was a little saddened to find that A. I. Root was just about the A. I. Root of old—no more, no less. Other temptations, that seemed to have faded, trooped forward again, and I was fighting and praying over life's battles as before. Now, then, where does God want me? where does the world at large want me—free from care and worry and responsibility, with my spirit unruffled and untried, or bearing my share of the burdens, tempted and tried as before? In the one case I should not be here to answer your letters or to look over your needs and wants at all. In my absence a good many would have to be out of employment; and if I knew nothing of life's trials, I could not write these papers of encouragement to those who have, perhaps, harder trials than mine to bear. Jesus said of his disciples, when he prayed for them, just as he left this world, "I pray not that thou shouldest take them out of the world, but that thou shouldest keep them from the evil." I do not mean to say that friend Pierce is wrong. He is right, and I thank him for his brotherly rebuke; but I hardly believe that a man can do very much in this world—that is, very much for his fellow-men—unless he meets trials and conflicts. Let me give you one more illustration in closing, that seems to bring this matter up in its proper light. The Savior once said, you know, that he came into the world, not to call the righteous, but sinners to repentance.

There was once a man who, from childhood up, seemed to have a special fondness for all womankind. He was "built that way" some of the friends would tell us. Well, in one sense we all ought to be "built" that way, especially when this trait, or whatever you call it, is sanctified by the love of Christ Jesus. In this case this peculiarity was not sanctified until the man was well along in life. While he was naturally honorable, upright, and fair in every thing else, there seemed to be a sort of looseness about him in this one direction—not that he was vicious or bad, or meditated any

sin or crime. Even in childhood he sought the society of the opposite sex, in his plays; and as he grew older, it seemed to be the most natural thing in the world for him to single out some special one and show a marked preference for her above all of her sex. If he was away from home, it seemed to make but little difference; and his particular sin, or inconsistency, seemed to be in the fact that he would give each new favorite to understand that she alone was the *particular* object of his regard. If he did not say so in words, he said it in manner. It might seem a little strange that such a man as this should happen to unite himself with one of the best of women; but so it was, and for a time he was loyal and true, as every man should be. Without the grace of God in his heart, however, as a restraint, it is nothing strange that, as years passed, his old fashion, or the way in which he was "built"—if you will excuse me for using the expression again—began asserting itself. His sense of honor, however, and his keen discrimination of what is ordinarily expected of a man with a family, kept him within the bounds of propriety at least. As he moved about in the world, however, and especially when business called him from home and into remote places where no one knew him, the temptation was very great to let it appear, at least for the time being, that he was not a man of family. Satan seldom lets opportunities slip. The Bible tells us that he is *constantly* going about, seeking whom he may devour; and this individual ere long felt, as some of the friends have expressed it, that the impelling power to evil was so great that he was hardly responsible. He was "built that way," and he "couldn't help it." However, before he had gone over to the adversary entirely his early religious teachings, with other influences, brought him fairly and squarely face to face with the gospel of Jesus Christ. He prayed that the image of his Savior might take the place of all and every thing else that had tempted him. Deliverance came to him, as it has to thousands before, and, in spite of the way he was "built," he was a new man. Yes, he was literally "built over" again, and that, too, when he was well along in life. For a time, at least, his experience seemed to be like that of many of our intemperate friends. No trace remained of his former great and grievous trials. Like a new-born child he had nothing to do but to wait and watch for the "Lamb of God who taketh away the sin of the world," to lead him step by step in that path that leads from earth to heaven. As the years passed, however, God seemed to call him into new and untried paths and experiences. Like the humble followers of Christ Jesus, it seemed to be the divine will that he should not be taken out of the world, but that he should mix a good deal *in with* the world. Need I tell you that, little by little, temptations began to creep back? For a time he was stumbled and was perplexed. Was it God's will? was it right that he should be obliged to fight day after day, in season and out of season, against these powers of darkness that would pull him down? There was a time in Paul's life, you may remember, when the reader of the sacred history would be tempted to say, "Why, Paul must surely have been making a mistake and a blunder. What earthly good could he accomplish by going to city after city, only to meet with persecutions by mobs, only to stir up bloodshed and crime, only to get himself stoned and dragged out of the city, narrowly escaping with his life at every crook and turn?" I remember thinking of that very thing, and I wondered why Paul did not get discouraged. It was cheering to me, however, to find that,

even at this very crisis, an angel came to him in the night, saying, "Be not afraid, but speak, and hold not thy peace; for I am with thee, and no man shall set on thee to hurt thee."

One day this man of whom I have been telling you had occasion to visit his home in the middle of the day. He wanted some book or paper, that all at once became important. He felt sure that his wife would be able to find it. In fact, she always found every thing as soon as she knew it was much needed by him. A wife might say, "Well, I can not tell you where it is now, I am sure. I do not see but you will have to get along without it." His wife never said such a thing to him. Her love and sympathy and kindly good will toward him all through the years they had lived together were such that she would drop every thing in an instant when she found she could be helpful to him. As he needed her help a good deal, she knew all about his things, his clothing, his books, his papers. Even when he threw things into the waste-basket, thinking he should never need them again, when something that had been deemed useless came to be of great importance, she would bring just that thing to light. Sometimes he found she had worked hours in accomplishing some little thing that he had at some time expressed a slight wish to have. Such was her fidelity and devotion to every thing that concerned his whole life, that he almost began to be afraid to suggest to her his wants and wishes. Some of you may be tempted to say she had no individuality of her own. Not so, by any means. Was she not the mother of his children? and was not that fact alone sufficient to make her feel that, whatever was *his* interest, was her interest also?

Let us now go back to the point where he came into his home. The weather was warm, and the doors were all open. As his feet touched the carpet it gave back no sound. She was intent on her work, and did not hear him. It was his purpose to ask her whether she could possibly find such and such a book or paper. He stopped, however, without saying any thing. She was intent on her work—something, doubtless, for their home. The setting sun threw a ray across her head as it was bent over her work, and revealed here and there a thread of silver. Every hair in that dear head was loyal and true to him and *his*, and the gray hairs had come thus through unwearied toil, that he and the children might be a blessing to the world, and that they might honor Christ Jesus. As he stood there he remembered a temptation he had just passed through. Please do not misunderstand me, dear reader. This man had learned, long before then, not to betray by any outward act the conflict that was going on within. The battles that he fought then were, as a rule, seen only by the God above and himself. As he stood on the carpet and looked toward his comrade and helper through life, he said to himself, "No, no, No! If Satan should tear me limb from limb, while there is a single drop of the blood of life in me, I will not, even in thought, be unfaithful to her who has been *such* a companion and helper thus far through life."* He went away and did not ask

for the thing he wanted; and, in fact, he soon forgot pretty much all about the whole affair; but before he knew it, a strange heavenly peace was hovering over him. A voice seemed to say, "Well done, thou good and faithful servant;" and for hours afterward it seemed to him that angels were near. After the Savior was tempted, we are told that "angels ministered unto him." Do you not see, friends, that this man had simply followed the injunction of the stirring text at the head of what I have written—"Quit you like men, be strong?" Do you not think he was a better teacher to his class of boys in Sunday-school than if this thing had never happened? Was he not better able to judge and decide, as cases of sin and crime came up before him, than if he had never had any such experience? I may be mistaken, dear friends; but it seems to me as if some of you who have written me think it is wrong for a man to be tempted—or, at least, if he did his duty as a Christian he would never have any glimpse of what Satan has to offer.

Think gently of the erring;

You may not know the power

With which the dark temptation came

In some unguarded hour.

And now, friend Bemis, have you not more respect for a man who acts contrary to the way he is "built," or, in other words, who, through the grace of God, builds himself over, than for the one who yields to evil impulses, and then excuses himself afterward by saying that that is the way he was built, and he can't help it? And, friend Pierce, I am sure that you too agree with me that it did not hurt this man a bit to be *sorely* tempted and tried. *Yielding* to temptation is what hurts us, and we need not be ashamed to acknowledge that we do have fierce battles now and then. Why, we have the Bible for it—"Count it all joy when ye fall into divers temptations." And, lastly, let me suggest to these other friends who have challenged me to say how God could consistently permit sin and evil to tempt us or lead us astray. Why, see here. A man could not be *mantly* unless he were human enough to know what it is to be tempted. If God should raise us to such a spiritual height as would entirely free us from temptation, we should be *men* no more; and our text, where it says, "Quit you like men, be strong," would not apply to us. Shall I define temptation a little more? Why, it is simply having a keen love and zeal for the things that this world furnishes. Most of these evils are all right if taken right; and the sin and crime are often in the excessive, selfish, or *perverted* use of God's gifts. A good strong well man has strong and powerful impulses from his physical unreasoning nature; and the God part that is in him—the mind and soul that God has given—are to rule and govern this unreasoning physical nature; and a man, to be *mantly*, must go out into and *through* the world. He must be exposed to temptation and sin; he must feel these sinful longings coursing through his veins, or else he would not be *mantly* or worth *any* thing. It does him good to hold back on these lower impulses. Unless

then, God has many times seen fit to let us pray this same prayer in great distress. For the time being he seems to think best to let us battle alone, as the father lets the child, when he is a little older, make his way unaided. This world is to be redeemed from sin, not by God alone, nor yet by man alone. Either way would be bad. Man and God are to work together. He who expects that God is going to do it all will go to ruin; and he who expects to reclaim himself without God will also speedily find himself in the dust of humiliation. Yet there is a crisis often reached, when God seems to be pleased to see his beloved children "quit themselves like men, and be strong," as in the case I have cited.

*I believe that God does at times see fit to lift men at once clear from their temptations. I think that those who are far down with strong drink are often so lifted and freed from bondage; but I do not believe that it is true, and I do not believe that it is wisest or best for any *man* to be so emancipated, that he nevermore has any more struggles with temptation. In the case I have cited, after this man became well rooted and grounded, and able to withstand temptation, God in his mercy seemed to think best to try him. Even our Savior said on the cross, "My God! my God! why hast thou forsaken me?" And I believe that, through the ages since

there were a possibility of and a sympathy for selfishness in his nature, he could *not* be manly. If he felt no temptation, and knew nothing of what it is to be tempted and tried, he would not be worthy of the love and respect and confidence of any good woman, neither would he be worthy of the respect which God himself showed him when he *created him in his own image*.

AN EXCEEDINGLY KIND LETTER.

SOME VALUABLE MORALS BESIDES.

Dear Bro. Root:—I address you thus, for in your "Home Talks" I feel you are a brother to all mankind. I never saw GLEANINGS till yesterday. My aged father had some old copies given to him, which fell into my "lap," as it were, at an opportune time. Sickness in my family, of wife and children (we have buried four babies), with loss of property, has made me poor, and my *health* is poor. I have a dependent family on my hands, so I want to get at some kind of work. I was terribly "blue," when I got hold of half a dozen copies of GLEANINGS, printed in 1887 and '88. I felt \$100 better after reading your Home papers and Our Neighbors.* Thoughts like this flit through my mind: *Five years* have gone by. Perhaps A. I. Root has gone to his "home above," and his sons are doing his life-work. Do *they* mix religion with *their* business as did their father? Well, I hope A. I. Root is still preaching his sermons by the "wayside," still living to help others. I feel I shall go forth to battle anew with life and its difficulties since reading GLEANINGS.

I write this line to you to thank you for writing such good little sermons that are so helpful to us struggling mortals. God bless you, if alive; and if dead, you still live.

Houlton, Me., July 26.

S. R. SMITH.

P. S., 24 hours later.—I have a hobby. It is and has been potatoes. I have tried lots of new kinds—most of them disappointing. I like Terry. He raised a lot of Freemans from a barrel of seed. I was much elated when I dug a hill I raised in 1891. Joseph (i. e., T. Greiner) sent me an ounce potato by mail. I got 8 lbs. from the hill. My ideas were up to high-water mark. Maule said he would give me a barrel if I got 60 subscriptions for the *Practical Farmer*. Well, I soon got the number and \$50 premium. I got another lot of 60 subscriptions, and got another premium of \$50. I always like to do good, so I told my brother-farmers the story of the ounce potato. I pulled in lots of subscriptions for the *Farmer* by promising two Freeman potatoes as a prize. In the spring of 1892 I got my barrel of potatoes. I gave 150 farmers their potatoes. All were more than pleased. In the fall, 90 per cent of my farmer friends would say, when they met me, "Prolifics." I went to the field and dug two barrels, and I said, "Prolifics." Now, you know Aroostook Co. is the banner one for potatoes. Maule says he sent me Freemans. I think he believes it. Still, I feel as if I had a mean dirty trick played on me. I used to be great authority on potatoes, and many took the *Farmer* for the sake of the potatoes. So, being poor, I feel very bad about the affair. I think it wicked to palm off something worthless for a good article. If these potatoes were Freemans, they are no good in Aroostook Co.

* May I call friend Dadant's attention to the above expression? Of course, our friend speaks a little recklessly; but after all, is not the Christian faith—the faith I have been trying so hard to teach—worth something?

Next spring I want to buy some new kinds of potatoes. If you are alive, and I am on the shores of time, I want to get a few pounds of Early Ohios from some one you can recommend.

I used to keep bees, on a small scale, but I really think Aroostook Co. too cold; the winters are too long. Terry is great on strawberries. I often wonder if he keeps bees. I have been much interested in the six-year-old copies of GLEANINGS I found as stated; but there is an undertone of sadness about reading advertisements, and pieces you and your co-workers wrote six years ago. No doubt death has laid you or some of these writers low. I hope A. I. R. is preaching these short sermons by the wayside. I do like to help my brother-man. I *meant* well when I sold the Freeman potatoes. God knows this; still, a host of farmers think I took this method to get subscriptions. Now, I believe Maule is a good honest man; still, all seedsmen exaggerate awfully. Would it not be a beautiful world if all cheat, deceit, bickering, and strife, were blotted out? I wish Satan were bound hand and foot, for all time and eternity. I hear you say amen! I don't care whether you are a Methodist or not. I feel to say, "God spare A. I. Root."

I have read eight back numbers of GLEANINGS, and I feel well acquainted with you. Is the good wife still alive? Is Huber and the rest of your family still alive? Death took a beautiful girl, nearly five years old, from us, one year ago. She was a wonderful child; was one of the happy kind. Her favorite piece was "Rock of Ages." How little I thought, the dear child would so soon be sheltered behind Christ, our Rock of Ages! I suppose you know all about these things. If death has not visited your family, it has your friends' and neighbors'.

You must pardon this long, poorly written letter. I am laid up in the house with a second edition of pneumonia, so I have had a feast with the eight numbers of GLEANINGS, and am having a pen-chat with the editor. I have got some encouragement from your Home letters. I hope you are still alive, pounding away for the good of men.

S. R. S.

[Yes, friend S., I am still alive to thank you for your exceedingly kind and encouraging words. I know of few things that have helped and encouraged me more through life than such instances as you mention, where even an old cast-away number of GLEANINGS has fallen into some one's way and given him help and encouragement in battling against life's trials. You will see, from some recent numbers we send you, that the boys (my son and son-in-law) do mix religion with business—perhaps not exactly as I do, but in a way that I think indicates they are not living altogether for self. I have been so much interested in your potato-story that I have, as you see, given it entire. I am glad you told it, as it illustrates how many times we meet with grievous disappointment, even in our efforts to serve our fellow-men; and it pleases me exceedingly to have you still say, "Now, I believe Maule is a good honest man." I do too, friend S.; but with the immense business he has on his hands it is almost impossible for him to avoid disappointment, and perhaps fraud, in some of these little details. I will tell you what to do. Send to us the address of every one of those farmer-friends, and we will mail them this copy of GLEANINGS, marking this letter; and I will also mail one to Maule; and if he does not send to those 120 farmers some genuine Freeman potatoes, then I shall be disappointed. There was a great strife for the Freemans, as you may remember; and, even during this last spring, Maule was

sold out; Terry could not scrape up another one, not even a small potato; and we advertised for them all over the land. The consequence was, that, by awkwardness, or perhaps by dishonest greed, some who paid for the genuine Freeman potatoes got something else. I am glad to say that all we received in answer to our call for them seemed to be genuine. Every time I made a purchase I inquired carefully into the character, standing, and reputation of the man who sent me the potatoes; and in every case I was told that they were good trustworthy people. It is quite a little credit, I think, to the great world at large, that no one even offered me any thing else for Freemans. There is a general and widespread desire among all our agricultural people, if I am correct, to avoid any sort of fraud or deception in this matter of new and rare seeds. Do not feel bad, friend S., even if somebody did play a trick on you or on Maule. I think every one of those farmers will admit that they received their money's worth in the *Practical Farmer*; for Terry's writings alone are worth the subscription price to almost any one. No, Terry does not keep bees. In fact, he has not a pig, chicken, sheep, nor dog, on his premises. He keeps only one cow to furnish milk and cream for the berries he raises. He is a specialist farmer—a man who believes in having a few things, and doing those things well, and buying of his neighbors what he needs, that he thinks it best not to raise himself. Hold fast to the Rock of Ages, dear brother, and trust God for the rest.]

TRADE NOTES.

THE PORTER BEE-ESCAPE; THE ENGLISH MODIFICATION OF IT, AND WHAT THE PORTERS SAY OF IT.

Friend Root:—Referring to the English modification of the Porter escape, illustrated in the Aug. 15th No. of GLEANINGS, and your comments thereon, permit us to say that we infer that you have not seen one of them. To be appreciated, or, rather, not appreciated, this is necessary. We have. The top is made of wood, and the body stamped from one piece of tin and fastened to the top with nails. The springs are passed through the slots in the sides of the body, and soldered directly thereto, no means of adjusting them being provided without or aside from bending them directly. Without this, accurate and uniform work is impossible. Such strips of spring metal as are required for the spring of a bee-escape, if brought to place by bending them directly, will not remain there for any length of time. Adjustment in some way is necessary, as it is impracticable to solder such delicate pieces exactly where required in the first instance. In general the workmanship is execrable. We should hardly expect to be able to give away such escapes, much less to sell them.

This open-at-both-ends idea is old to us, we having made and tested such escapes before we ever sold one of any kind. We inclose one made on this plan. If it is in any way superior to our regular form, we have been unable to find it out. In fact, we believe that the latter will free the super of bees a trifle the more rapidly as a rule, though there is but little difference in them in this respect. The reason that escapes of large capacity free the super of bees no more rapidly, if as rapidly as those of much smaller capacity, lies in the fact that, as the exit room is increased, the desire of the bees to desert the super decreases proportionately. We tested some escapes this season having 15

exits, and I have placed a number of such in the hands of others. We find them no more rapid than the single-exit form, and in no other respect superior. This is also the experience of others so far as we have heard from them. Such large escapes, when used with very large supers, may produce less excitement of the bees than the small ones; though our experience is, that the latter produce none to speak of, except in very rare instances, when used with shallow supers, say of a depth of 7 inches or less.

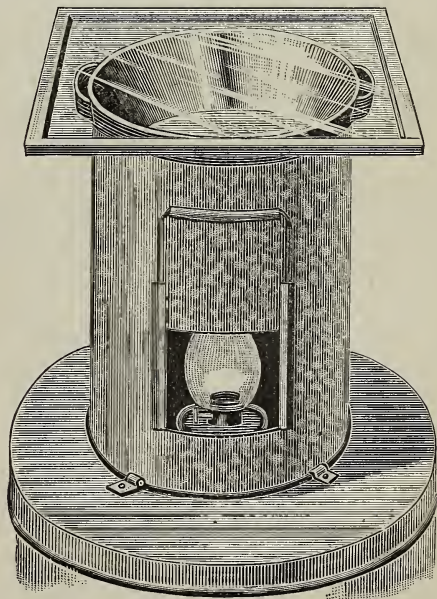
Regarding the outside-exit idea, now somewhat to the fore, we have been over the ground carefully. The arrangement has serious objections, and no advantages over the brood-chamber-exit plan. As a rule, it is not as rapid as the latter, unless the bees are confined till very much excited before being permitted to escape. But this plan will never become popular, because, aside from the extra work involved, colonies so confined require too careful watching to prevent smothering.

R. & E. C. PORTER.

Lewistown, Ill., Aug. 19.

THE TAYLOR WAX-EXTRACTOR.

Friend Root:—I send you to-day the photo of the "Handy" solar wax-extractor. I think it will make the machine plain. We had to turn the door to the front to make the lamp show. When in use the slide door is at the back. A good-sized lamp will answer for a small extractor. The platform on which the extractor-can is fastened is made from a discarded hive-cap. This is fastened on a post so as to revolve. This is an easy way to keep the can facing the sun. The thing will work with-



out the revolving stand, but there must be some place for it, and there is nothing cheaper than a post set into the ground in some warm nook, where the extractor may remain during the season.

I have been using this extractor every clear day lately. We had a large number of extra combs, advancing years making it necessary for me to curtail the number of my colonies. I never expected to be able to melt so many

combs in so small an extractor, but I have made such progress that we shall try to finish the job without the large machine, as I intended. I think that, in making a large machine, I would have the pan square or oblong, with only the highest side made sloping to reflect the sun's heat, as, by the aid of the revolving stand, the machine could easily be kept facing the sun. The advantage of the oblong pan would be in more easily making the glass cover. However, a 20-inch dishpan will make an extractor large enough for most bee-keepers' use. Forestville, Minn., Aug. 13. B. TAYLOR.

[A detailed description of how to make this extractor, as above illustrated, is given in our August 15th number, page 634.]

LANGDON NON-SWARMING DEVICE.

Your welcome favor of May 29th from Switzerland was received in due time, and now that I have had the present year's experience and the benefit of the few reports that I have received from those using them, I will make a report to you about the non-swarmers. You have my thanks for the manner it is shown in the *B. B. J.*, and for the information and advice in your last letter.

I regret to say that the non-swarmers do not do for me just as well as it did last year. How much this depends on a difference in the season is hard to tell. There has been some swarming, a small per cent, from the sixty non-swarmers in operation in my house-apiary, and I find from my experience, and the few reports from those using them this season, that there are at least three points that it will not affect; viz., once in a while a queen is killed, and hatching cells make some trouble afterward. If the queen is old and the bees try to supersede her, they will build cells in the closed hive; and then if it is opened soon after she will lead out a swarm. This can be stopped by keeping all queens in their prime, as all bee-keepers ought to do. Also, it is known that they will sometimes swarm with only eggs in the queen-cells that they leave. Running so many bees into the same hive seems to encourage this extreme of the swarming fever, and it has been done more frequently with the non-swarmers in place than before. To what extent shading the hives would help this is yet to be seen. Also, there might be a great difference in races of bees as to that point. I have only Carniolans, and so can not tell about the Italians yet.

These are exceptions; but they may stand in the way of having the plan largely adopted by those who can make self-hivers a success, or those who can care for their bees in swarming-time. I have over 500 on trial in different parts of the country this season, and will know more about its success before long. I can make it of important use to me in my house, even as it is now, and have set the ball rolling, so that if there is any possible way to bring it to absolute perfection the way is clear and a good track laid.

It was late in the season before the non-swarmers were put on the market, and for that reason may be explained the failure of some; but I made one mistake in instructing them to make the change of bees and cases from one hive to the other once in seven days instead of not over five. A natural queen-cell hatches at an average of nine days. Now, if the bees have the swarming fever *very badly*, and start a cell from a larva just hatched from the egg, or one day older, they can seal it and swarm on the fifth or sixth day if they start it the same day they are turned into the other hive. I think that is where the most of the failures lie, and that by a careful working-up of these points,

and not taking too much for granted (as I am afraid I did last year) the plan will finally be brought out so that it will work with but few exceptions.

Thanking you for your kindness, and hoping to see this plan help all the bee-keeping fraternity, I am yours truly, H. P. LANGDON.
East Constable, N. Y., July 20.

—*British Bee Journal*, August 10, '93.

HIGH-PRESSURE GARDENING.

BY A. I. ROOT.

GARDENING FOR SEPT. 1, IN A DRY TIME.

Well, friends, I have not any thing very encouraging just now; and, to tell the truth, I am afraid I have been losing enthusiasm. The drouth continues, and almost every thing is at a standstill. It is true, we have had local showers; and about once in ten days we have had rain enough so the water would run down the roadsides—that is, where the roadsides were favorable. But not one of these showers seems to have got down to the roots of the plants. Push a spade into the ground, and the dry dust comes up every time, even immediately after a shower. I suppose the showers do some good, and very likely we are better off here than the folks in some other places. We have no lack of water for man and beast, and we have *some* to spare for irrigating; but what perplexes me most is, even the use of water does not seem to work as it ought to. There is plenty of manure, and the weather is warm enough, sure. But even when we put on the water without stint, a good many things do not grow as I want them to. For instance, we put out a lot of celery, and used a hundred barrels of water to wet the ground up thoroughly. The plants do not grow; and when I dig into the rows to fill up vacancies, I find the ground almost as hard as a brick, where I put the water. Why, before planting it was worked up as fine and soft and deep as any one could wish. Perhaps the result was owing to the fact that I did not throw some dry earth over the surface where the water had been applied, as I usually do. I felt sure it was going to rain, and perhaps this is one reason why we have not used more water. The use of water on the strawberry-beds has worked nicely. We have filled all our orders with nice strong well-rooted plants. I only hope the friends who received them have had water to keep them growing.

Now, there is a big moral to look after right here. Gardeners are becoming discouraged by the wholesale—or, perhaps I should say, the *young* gardeners are. The old veterans have learned better. We want to keep right at work, and we can prepare the ground and sow spinach now. We want to sow seeds of lettuce for plants just right for forcing under glass, and we want to put out plenty of seeds for cold-frame cabbage-plants. Remember how much cold-frame cabbage-plants were worth last spring, and nobody had any. Sow rye on all your vacant ground. Why, my 47 bushels of rye to the acre that has nearly all been sold at 65 cts. a bushel (taking out the price of bags) has been a more profitable crop than much of my market-garden stuff. A general scarcity and a general abandoning of the business only means big prices for those who have something to sell when there comes a great demand. We are getting excellent prices for what we have to sell, even now; and wax beans, lima beans of all kinds, and several other vegetables that stand drouth, are yielding quite a fair crop that

sells at excellent prices. Now, mind I tell you to look out that you do not "get left," and let some other fellow make a "big thing" while you are only standing and looking on. Remember the prices we paid for clover-seed, pork, and—oh dear me! I almost forgot to mention potatoes. They are worth a dollar a bushel here in Medina, and not very nice ones at that; and who knows what they will be between now and a year from this time?

TOBACCO COLUMN.

CONDITIONS UNDER WHICH WE GIVE SMOKERS TO PERSONS WHO STOP USING TOBACCO.

First, the candidate must be one of those who have given up tobacco in consequence of what he has seen and read in this department. Second, he promises to pay for the smoker should he ever resume the use of tobacco in any form, after receiving the smoker. Third, he must be a subscriber to GLEANINGS. Any subscriber may, however, have smokers sent to neighbors or personal acquaintances whom he has labored with on the matter of tobacco-using, providing he give us his pledge that, if the one who receives the smoker ever uses tobacco again, he (the subscriber) will pay for the smoker. The one who receives the smoker in this case need not be a subscriber to GLEANINGS, though we greatly prefer that he be one, because we think he would be strengthened by reading the testimonials from time to time in regard to this matter. The full name and address of every one who makes the promise must be furnished for publication.

M. Peden has quit the use of tobacco, and says if you will send him a smoker he will not use the weed any more. If he uses it again I will pay for the smoker. H. PEDEN.
Perdue, Tenn., May 27.

One more county heard from. Mr. O. A. Hend wishes you to send me a smoker for him, as he has quit tobacco, and ordered five Dove-tailed hives of J. M. Jenkins, through me. I will pay for the smoker should he ever use the weed again. WM. B. EXOCHS.
Eupora, Miss., May 27.

Six years ago you sent me one of your smokers on the tobacco pledge. I have never used tobacco since, and I think I have saved over \$200 by so doing, besides ridding myself of a filthy habit. M. E. HOLMES.
Indianola, Neb., May 22.

I received the smoker in good shape, and will say that, if I ever use tobacco again, I will pay for the smoker. My father also keeps bees; he said that, if you would send him a smoker, he would never use tobacco any more.
Quebeck, Tenn., May 27. C. H. STEWART.

I see you offer to give any one a smoker who will quit tobacco. I saw it this morning in GLEANINGS. I pledge to you that I will never use tobacco any more. If you are willing to send me a smoker you can do so. If I use tobacco any more I will pay for the smoker.
Quebeck, Tenn., May 21. C. H. STEWART.

Please send Mr. Frank Jackson a smoker. He was as much of a slave to tobacco as a man ever gets to be, but has quit, and I think he deserves a reward for it. If he takes up the habit again I will pay for the smoker. He is a new bee-keeper, and has hardly gotten a start yet. L. L. NEYLAND.
Berwick, Miss., May 7.

I received your letter a few days ago in regard to that smoker as a pledge. I can say that I am a subscriber to GLEANINGS, and have been induced by its readings to give up tobacco; and if I ever use it again I will pay for the smoker. T. A. CHAMBERS.
Bartlett, Iowa, July 23.

I send you the name of Rev. J. A. Patton, of Cherokee, Ala., who has quit the use of tobacco. Please send him a smoker. If he ever commences again I will pay for the smoker. Mr. P. is a bee-keeper, and uses Dove-tailed hives from friend Jenkins. G. E. GEISE.
Dickson, Ala., June 3.

Find 70 cents inclosed to pay for the smoker you sent to O. Goodmensen for a pledge. He has commenced smoking again, so I send you the price of a smoker, as I agreed to. He said the mosquitoes were bad, and that he had to keep them smoked out of his face.
Jewell, Fla., July 27. A. J. HUSKEY.

We all think a great deal of GLEANINGS, and think you are very liberal in offering a smoker to those who promise to quit tobacco. One of my aunts, Mrs. T. R. Pearman, wishes to take advantage of your offer, and promises to quit smoking if you will send her a smoker. If she doesn't I'll pay for it. D. B. THOMAS.
Odin, Mo., April 21.

I have two friends who have been keeping bees for three years. They both used tobacco, but promised me to stop the use of it. They have not used any in six weeks. I want you to send them a smoker apiece; and if they ever use tobacco again I will pay you for them. Their names are T. A. McBride and S. Anderson, both good men. J. J. KEITH.
Louisville, Ga., May 24.

A friend of mine, G. W. Bouher, Boyd, Ky., has signified his intention of quitting the use of tobacco; and after looking over the Tobacco Column, and seeing your advertisement promising a smoker to all who quit, he asks that I have one sent to his address. He promises that, if he ever begins the use of the weed again, he will pay for the smoker; but in case he should fail to do so I will remit the price of the smoker; but you need not fear. I think he is fully converted. H. C. CLEMONS.
Boyd, Ky., May 16.

After reading GLEANINGS concerning tobacco, etc., and being appointed teacher over the Bible class, I was sickened, whipped out, today. I went into the church, and there I was chewing and spitting on the floor. I looked down and beheld myself as I never did before, and I have made a pledge to quite tobacco, and I made it before my good wife. If you will send me a smoker I will keep it as the fruits of my pledge; and if I ever begin to use it again I will pay you for the smoker.
Rover, Ark., May 4. A. J. ALLEN.

HOW TOBACCO KILLS.

We clip the following from the *Farm, Stock, and Home*:

It is said that tobacco smoke will kill grubs in sheeps' heads. Quite likely, for it killed a neighbor girl's regard for a cigarette-smoking beau.

KIND WORD FOR GARDEN SEEDS, ETC.

The garden seeds I got of you in the spring were the best I ever planted. They came quickly and grew rapidly. The Grand Rapids lettuce made me enough alone to pay for all my work. May God bless you, and spare you among us for the good work you are doing, is my prayer.
Alexandria, Ind., July 7. E. E. EDWARDS.

[Friend E., it troubles me to get such very kind words from you and others as the above concluding sentence; and the reason why it troubles me is because it brings up again and again the feeling that I so poorly deserve them.]



For a small moment have I forsaken thee; but with great mercies will I gather thee.—ISA. 54: 7.

WE do not very often introduce choice bits of poetry at the head of our editorial columns; but the following, from the *New church Messenger*, is so unique that we can not forbear giving it place here:

As I sat a-dreaming,
And thought the world a-seeming,
With nothing true
Or old or new,
A little bee flew nigh me,
And buzzed as he went by me:
"Up! up and do!
'Tis such as you
That makes the world a-seeming."

WE have on hand an article from one of our correspondents, who pronounces the Langdon non-swarmer a *perfect success*. We will try to give it in our next issue.

At just about this time of the year, propolis acts the meanest. It is more or less sticky, and decidedly tenacious. There is one thing comforting—at other times it gives but very little trouble. Indeed, even our Hoffman frames with the V edges work nicely even now. That V edge works all right, even if theory does say no.

IN the department of Replies to Questions, in the *American Bee Journal*, it is asked whether self-hiving arrangements are a success. With three or four exceptions the respondents vote against them. With only one exception, those who vote adversely have not tried them; and with one exception, again, those who have tried them vote in their favor.

VOLUME I, Nos. 1 and 2 of the new series of the *Canadian Bee Journal*, are on our desk. In the make-up and general selection of matter, and in the printing, there is quite an improvement over the old journal. There is a good field for a bee-journal in Canada, and we see no reason why one should not be made, under the present management, a decided success.

WE have so improved the Crane smoker that it is giving great satisfaction in our apiary and in others. If any of our customers have purchased some of the earlier smokers, and they do not work, we hope they will kindly send us by mail the check-valve chamber, and we will remodel and return it without cost, so as to make their smoker a "thing of beauty and a joy for ever."

THE biographical department of the *American Bee Journal* has been maintained vigorously for over a year now, and in every issue of the weekly. We thought, some three or four years ago, that we had "done up" pretty nearly all the prominent bee-keepers; but new ones are coming to the fore, and it is a pleasure to make their acquaintance. Brother York is a good introducer.

WE notice from our upstairs office windows small festoons of bark-lice on thrifty growing basswood-trees, a few feet distant; and on the sidewalk beneath there are little drops, or, rather, spots of stain that look exactly like the drops of honey-dew or exudations from the plant-lice,

so noticeable on the walks in 1884. Strange as it may seem, little or no honey-dew is getting into the hives. Very possibly it is an off year for plant-lice. We sincerely hope it is. So far we have had no reports of the bees gathering honey-dew anywhere in the country, although we have seen on the bushes and trees an unusual number of plant-lice up to date in our locality.

STRAY STINGS is the title of a new department in the *American Bee Journal*. The title might lead one to expect something caustic or disagreeable. On the contrary, it is very pleasant. Here is a sample of one of them:

It has long been supposed that millers grind out flour; but the Miller of GLEANINGS reverses the operation and grinds out straws. If the good doctor had got a little further down in the straw he would have been able to use roots in his gristmill. It is a long way, comparatively speaking, from the head of the straw to the roots, and, perhaps, the doctor chose the medium instead of the extremes, at the same time hoping to work toward the ends. If this be so, we should like to know which he proposes to grind first—the Roots or the Heads of Grain.

WE find the following in the last issue of the *American Bee Journal*:

Mr. J. T. Calvert, the most excellent son-in-law of A. I. Root (and also manager of their great bee supply business in Medina, O.), recently paid Bro Holtermann and the *Canadian Bee Journal* a visit. Mr. Calvert was on a bicycle tour, taking in the glorious Christian Endeavor convention at Montreal, Quebec. We shouldn't be surprised to hear that Mr. Calvert, with Bros. A. I. and Ernest Root were going to the World's Fair on their wheels, as they are all expert bicyclists. If they do, we'll agree to wheel into line our best and truest—we'll come.

Many thanks, Bro. York. We extend our grateful acknowledgments; and if, indeed, we should go on a wheel, one or all of us, we should be very happy indeed to have you wheel in line with us. By the way, we have kept in line in apicultural matters so far, and may we continue to do so.

BRO. HUTCHINSON, of the *Bee-keepers' Review*, is finding pleasure and delight in the camera. We doubt not that, later on, he will find profit also. Very recently he sent us a very pretty photo of "Baby Fern," taken by himself. As we admired the picture the camera fever seized us, with the result that we took several pictures of the babies of Rootville. We were almost tempted to have the picture of Mr. H.'s last baby reproduced in half-tone and present it to our readers. But then we thought that, perhaps, we might be taking little too much liberty.

By the way, we are about to start into some thing in the line of biographical pictures. Instead of showing only a view of the *pate familias*, or the principal bee-keeper, as formerly, we propose showing the whole family of a few prominent bee-keepers who will give their consent. In our next issue we will present the apiary and members of the family of Mr. F. L. Snyder, of Orion, Wis. This will be followed later by a view of the Atchley family, every one of whom is a bee-keeper.

WOODEN VERSUS WIRE-CLOTH PADDLES FOR KILLING BEES.

IN another column friend Doolittle seems to give the preference entirely to the solid wood paddle for killing those cross bees that will persistently follow the apiarist about for hours at a time. In one of his comments, made a year or so ago, in answer to an item in the A B

book, on the subject of cross bees, friend Doolittle wrote:

I carry a paddle, made of wood and wire cloth, in my work-box; and if any bee insists on following me two rods from its hive, I always kill it with this paddle, and thus my apiary is always kept free from angry bees. The wire cloth is inserted in the center of the wood, so as to allow the air to go through the paddle, thus making sure of hitting the bee every time, instead of blowing it on one side, as is often the case where only solid wood is used.

From the above it would seem that our friend has changed his mind. That's all right; we do it ourselves sometimes. Now, we have tried both the solid wooden and wire-cloth paddles—the wire cloth itself being reinforced at the edges by a rim of heavy wire. The latter, in our hands, proves to be much more effective. It hits the bee every time without fanning, and so far as we can remember, it makes a pretty sure job of killing. We made quite a lot of them for use at the candy-stands at our county fair, giving one to each stand, with instructions to kill the first bee that came around; and you will remember how, last year, we reported that the plan was a complete success. With the wooden sticks and paddles we used to give them, they were quite sure to only fan the bee—possibly receive in return a sting for their misdirected effort. Now, Mr. Doolittle, have you not been a little too hasty in giving up a good thing?

When we want to make a wholesale job of it, we simply clap a couple of boards together, about as one would a pair of cymbals; and as soon as every last bee is killed, peace reigns for a while. But when we desire to kill only an *occasional* bee, a wire-cloth paddle, in our estimation, is ahead of every thing else. Now, either friend Doolittle has lost the knack of killing bees with the wire cloth or else he has forgotten what he wrote above; for, observe, he said, "*I always kill it with this [wire-cloth] paddle.*" Italics are ours.

THE BOARDMAN SOLAR WAX-EXTRACTOR; HOW IT WILL SAVE MONEY FROM "STUFF" USUALLY THROWN AWAY.

We have been saving up for several months past the refuse from the wax-rendering from our wax-room, until we have now an accumulation of several barrels. By any process by which we may treat it in the wax-room, even by sulphuric acid, we can get no wax out of it. It seems, in fact, to be nothing but dirty dirt. Very recently we set up one of the Boardman extractors, placed a few shovelfuls of this stuff in it, spreading it evenly over the bottom of the machine. The results were astonishing. At the present rate we shall get a large quantity of wax of beautiful color, of what could not otherwise be obtained by any mechanical means indoors. Indeed, from our four or five barrels of dirt we shall get, at the present rate, about half a barrel of beautiful wax; and with this style of extractor the labor of shoveling the stuff into the wax-extractor and removing the residue after the wax has been extracted, is very small indeed. We are coming to the belief that the solar wax-extractor does its work the most thoroughly of any method of refining known. The first few times we tried the Boardman it did not seem to do the work satisfactorily; but we now know that it was because we thought we could make a "slight improvement" on his machine. It will be remembered that the bottom of his tray is simply made of matched stuff—that is, narrow strips of lumber tongued and grooved like flooring or ceiling. Well, our improvement consisted in covering this flooring with tin, but its bright surface reflected back so much of the

sunlight that we actually lost considerable heat, and really spoiled the practical working of the machine. The last time we visited Mr. Boardman we were reminded that the bottom of his extractor consisted principally of matched stuff, and we began to think that was really the reason why his worked so nicely. Soon after arriving home we put out an extractor exactly as Mr. Boardman makes his, with the result above mentioned. Lest some may have forgotten how the Boardman is made, we will simply state that it is a large wooden tray, made entirely of wood, 4 or 5 in. deep, and about 3 by 5 feet. An ordinary hot-house sash may be used to cover, but we find it very much better to use one large glass. Glass is now made so cheaply in large sheets that it adds but a small amount to its cost, and considerable to the effective working of the machine, because the ordinary sash *bars* make shadows, along which the wax fails to melt. If you do not wish to make a Boardman solar wax-extractor, you can obtain one at the Home of the Honey-bees for \$6.00. We shall soon put in use some four or five of them. Indeed, every foundation-maker will find that their use will many times make up for their first cost. They will likely earn for you in one day \$10.00 from dirt that would otherwise be turned over to the garden as just so much fertilizer.

HOW TO TAKE AWAY THE DISPOSITION ON THE PART OF THE BEES TO ROB AFTER THE HONEY-FLOW.

EVERY summer, after a honey-flow and during the early part of the fall, we have been troubled greatly by robbers. As is well known, our apiary is run almost exclusively for conducting experiments, rearing queens, and raising choice bees. This requires the almost incessant opening of hives; and the result has been, that robbers have bothered us continually—so much so that many days we have been obliged to discontinue work. This year we have not been bothered at all; and it is not because nectar has been coming in in small dribs right along, but because we have discovered a way of keeping the robbers busy.

Nearly a year ago we described in our issue for Oct 15, page 782, our method of transferring, and, in connection with it, how to get extracted honey from the old crooked combs, without an extractor. The latter was accomplished in this way: Old combs containing much or little honey, that were crooked or otherwise undesirable, were placed in four or five hive-bodies, said bodies being stacked up in one tier four or five high. A wire-cloth screen* was placed on top, and shaded; and an entrance at the bottom was contracted to a space sufficient to admit one or two bees at a time. As it took the bees some little time to get in and out of the hives, to say nothing of the time of crawling up and down the combs, no robbing was induced. The very thing that will get an apiary in an uproar is, to let the bees get a large quantity of honey at a time. But if, on the contrary, the bees can get the honey very slowly, about as they would from natural sources, nothing unusual is apparent in the apiary; and, on the other hand, the undesirable combs are emptied and cleaned up. Having bought quite a number of colonies in the spring, we had quite a lot of just such combs, all containing more or less honey. We stowed these away until the honey-flow, when they were put in tiers of four or five hives, as described above. Our purpose at the time was simply to get the honey out of them. But, incidentally, we stumbled on to something more

*This is necessary to prevent the bees from smothering while in the hive.

valuable than this; namely, that the apiary, during all the time that bees were working in these hives, showed no signs of robbing. Indeed, for the last two months we have been able to open the hives just as we did during the honey-flow, without a single robber poking its nose around to investigate. Those that would otherwise be robbers, and make much annoyance, seem to be occupied in getting honey out of the stacked-up hives. Incidentally also we discovered another decided advantage. We found we could introduce queens from queen-cells, and do every thing else, in fact, as easily and successfully as during a nice moderate honey-flow; for it is a well-known fact that bees will accept queens and queen-cells much more readily during a time when honey is coming in than at a time when none is coming, and when robbing seems to be the order of the day. This discovery has been worth to us many dollars. Dr. C. C. Miller was the first one to give us the idea of letting bees rob quietly in this way; but he did not then anticipate how many valuable results would grow out of it.

By the way, did it ever occur to you, dear reader, how much of an experimental apiary ours has come to be? We are constantly testing new ideas and inventions, and reports from the same are being given in nearly every issue. The most valuable thing this summer that we have come across is a perfect working scheme for keeping the bees quiet during a dearth of honey, thus rendering a bee-tent and other things unnecessary, and work in the yard pleasant and profitable.

In another column it will be noticed that the reports *discouraging* are more numerous than the reports *encouraging*. The exceedingly dry weather has rather put a quietus on the usual late honey-flow; but the reports discouraging, it will be noticed, apply to territory where the seasons have been poor, and have been so reported along with the reports encouraging when the scales turned the other way.

DIRECTIONS FOR USING MERCURIAL AND ANEROID BAROMETERS.

We have had a lot of these printed, and will mail them free of charge to any one who will send us a stamped envelope directed to himself. As it is all printed matter, a one-cent stamp will be sufficient. They will apply to the barometers we have sold, or to any mercurial or aneroid barometer. Please take notice, however, that they have no reference to a cheap kind of glasses that have been sold by agents all over the country. What I mean is, some sort of powder dissolved in a liquid. When it is going to rain, the liquid becomes cloudy—at least, that is what the directions say. A true barometer records the pressure of the atmosphere; and, in fact, it can be used to tell the altitude of a hill or mountain as well as to foretell the weather. If you go up a high mountain, of course there is not so much air above you, so the pressure is less. The aneroid barometers work on the same principle as the mercurial, except that the scale is, for convenience, made in the form of a circle. Please keep in mind that, when we use the term "high barometer" or "low barometer" we mean high or low *pressure*. The average pressure, but little above sea-level, is about 29 inches; therefore, when the indicator moves toward 28 inches we mean "down." When it moves toward 29 or 30, it means "up." I mention this, because, unless you look at the figures on the aneroid, you may get confused, because sometimes the hand is really going down when the mercury in the mercurial barometer is going up.

THE BEE.

Oh the bee! the bee! the honey-bee!
He's just the fellow I like to see.
His life is gay as the day is long,
And overflows with a flood of song;
He bathes in the dew of a new-born day,
And revels like schools of children at play.

Oh the bee! the bee! the honey-bee!
A marvelous creature is he to me.
I watch him often with raptured eye
As he wends his way and blends with the sky;
He flies to the fields, and, lo! he dips
His tiny bill in the drop that drips
From the clover-blossom's laughing lips;
And he leaves a tune and he leaves a kiss,
But he takes a globular world of bliss.

Oh the bee! the bee! the honey-bee!
It teaches a truthful lesson to me.
Patiently toiling from day to day,
Wearing by little a life away;
Each load you gather, each drop of sweet
You lay in store for others to eat—
Yet, uncomplaining, you toil along,
Rejoicing in labor and filled with song.

Oh the bee! the bee! the honey-bee!
God's wisdom is manifest plainly in thee.
And may we ever be steadfast and true,
Devoting our lives to the good we can do;
For the world is a meadow of sweet-clover
bloom,

And we, like the bee, have plenty of room
To gather the nectar of kindness and love
That drops like the dew from the heavens
above.

Alexandria, Ind. EVAN ELLERY EDWARDS.

CONVENTION NOTICE.

THE COLUMBIAN MEETING OF THE BEE-KEEPERS OF NORTH AMERICA.

The North American Bee-keepers' Association will hold its 24th annual convention on the 11th, 12th, and 13th of October, 1893, in Chicago, Ill.

PLACE OF MEETING.—A hall for the use of the convention has been secured in the "Louisiana Hotel," at the corner of 71st Street and Seipp Avenue, only a few minutes' walk from the south entrance to the World's Columbian Exposition. This hall is large, well lighted, and in a quiet place.

HOTEL ACCOMMODATIONS.—The Louisiana Hotel itself will furnish comfortable accommodations to a large number of the members, at very moderate prices. For a small room two persons pay daily 75 cts. each. Larger rooms occupied by two at \$1.00 per person. Four persons occupying a room having two beds will pay 50 cts. each. Meals can be obtained in the hotel at reasonable rates, or at numerous restaurants in the vicinity.

It is best to engage rooms by letter beforehand. The proprietors of the Louisiana Hotel give us the use of the hall free, expecting that many of the members will take rooms with them; and as the prices are moderate, and the rooms are neat and convenient, it is but just for all who can well arrange to stop there to do so. For this purpose, address "Manager of Louisiana Hotel, corner 71st Street and Seipp Ave., Chicago," stating what priced room is wanted.

RAILWAY TICKETS AND BAGGAGE.—Most of the railways ticket to the Exposition Depot, near which the Louisiana Hotel is located, and baggage should be checked to that station, thus avoiding extra charges, as it is about seven miles from the city stations to the World's Fair grounds. Information as to rates of travel, time tickets are good, etc., can be obtained of a local ticket agent. From many points—especially from cities having numerous competing lines—excursions will be starting which will permit those who can take advantage of them to go and return at the usual rate for one fare.

PROGRAMME AND ATTENDANCE.—The programme, of which further notice will be given, consists of interesting papers by well-known specialists, and discussions of topics which will interest honey-producer, queen-breeders, manufacturers of apiarian supplies, publishers and editors of bee-literature, and dealers in honey and wax. Viewing the various foreign and home exhibits in adjacent halls at the World's Fair will form an attractive and instructive feature of the meeting, and the number of apiarists widely known here and abroad who will be present and take part in the proceedings is of itself a guarantee that this will be a highly interesting and enthusiastic meeting. Counting, therefore, upon a large attendance, the Executive Committee of the society has made arrangements accordingly. Let every State in the Union send the strongest possible delegation, and let every branch of our industry be represented at this great Columbian gathering. No other occasion is likely to occur in our generation when so much of interest can be seen and heard at the time of one of these meetings; and it is earnestly hoped that a much larger number of the bee-keepers of North America than has ever met at any previous convention will be able to avail themselves of this grand opportunity. A special invitation is extended to the bee-keepers of every foreign country.

NOTICE OF ATTENDANCE OR OF PRESENTATION OF PAPERS.—The Secretary is desirous of obtaining, as early as possible, the names of all who contemplate being present. Kindly notify him by card or letter; also any who may wish to present papers.